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U. S. troops march through the Arc de Triomphe, Paris.

SEPTEMBER-OCTOBER, 1944

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Organized November 9, 1885

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Volume LIII SEPTEMBER-OCTOBER, 1944 Number 5

CONTENTS

LIBERATION: (Picture Layout) 2

ARMOR IN BATTLE OF NORMANDY 4
By Major John North

ROCKET TYPHOONS—Answer to German Panzers
What Are Typhoons? By Major Oliver Steward 8
Typhoons in France. By Wing Commander L. V. Fraser

LIGHTNING WAR—U. S. STYLE 12
By Captain Arthur L. Paddock, Jr.

THE "IMPREGNABLE" NETHERLANDS 14
By Selden Menefee

TANKS IN STATIC DEFENSE—1st Armored Division at Anzio 16
By 1st Lieutenant Richard K. Gottschall

VARIATIONS IN TD TACTICS—Some Lessons Learned in Italy 20
By Major James S. Metcalfe

ACHTUNG MINEN!!! 23
By Lieutenant Colonel Stanley W. Dziuban

FROM JEEPS TO PACKS 26
By Colonel Albert E. Phillips

GENERAL HAWKINS' NOTES: Would Cavalry Have Been Useful in the War in Western Europe? 29

REPORT ON OPERATIONS IN NORTHERN FRANCE June 6—August 25 31

EDITORIALS 32

CAVALRY IN DISMOUNTED ACTION (7th Reconnaissance Troop on Kwajalein) 34
By Lieutenant Colonel S. L. A. Marshall

WITH THE PHILIPPINE ARMY ON PANAY—March 1-May 25 42
By Major Arthur K. Whitehead

FROM BEHIND THE AXIS FACADE 48

RED ARMY COSSACKS: Part 1—Traditions, History and Uniforms 52
By Major Robert B. Rigg

RAIDS IN GERMAN REAR 58
By Eugeny Krieger

AIR-CAVALRY AT BRYANSK 60
By Guards Colonel V. Ukhov

TANK BATTLES FOR MINSK 62
By Lieutenant Colonel P. Slesarev

A TANK BN. HDQS. ON THE MARCH AND IN THE ATTACK 66
By Major Charles W. Walson

TANKS AND TANK DESTROYERS AS REINFORCING ARTILLERY 67
By Colonel Otis McCormick

SUPPLY DISCILINE 69

RECONNAISSANCE—The Eyes and Ears of the Army 70

FIGHTING THE UNCOMMMON COLD: Winterization Kits For Army Vehicles 72

DOS AND DON'TS ON GLOBAL MAINTENANCE! 74

BOOK REVIEWS 75

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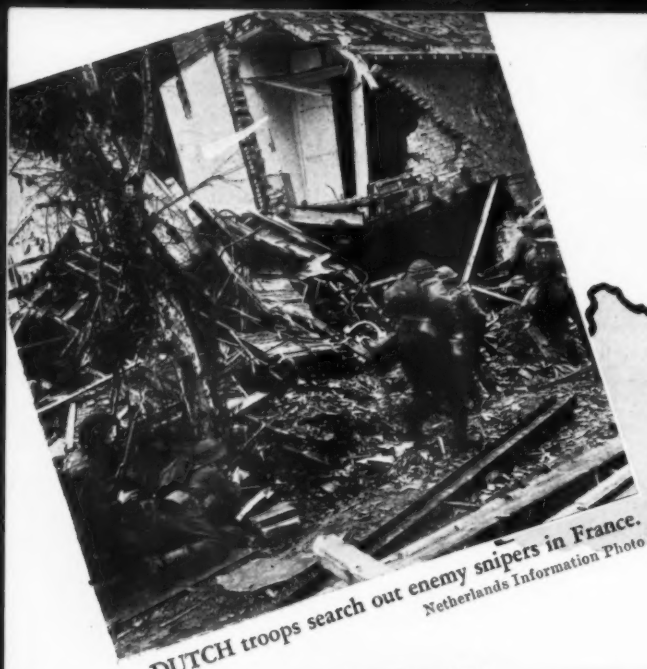


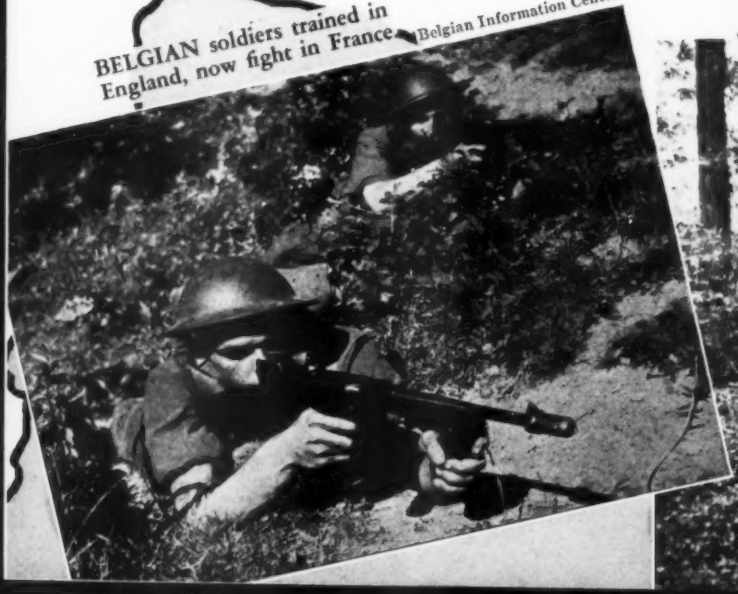
DUTCH troops search out enemy snipers in France.
Netherlands Information Photo

BRITISH artillerymen fire on Tilly-Sur-Seulles, France.
British Official Photo

UNITED STATES tank destroyer troops advance on Fontainbleau.
Signal Corps Photo

POLISH infantry hold heights
in the snow-swept Appenines.
British Official Photo

BELGIAN soldiers trained in
England, now fight in France.
Belgian Information Center



FRENCH PATRIOTS join Yanks in Southern France.

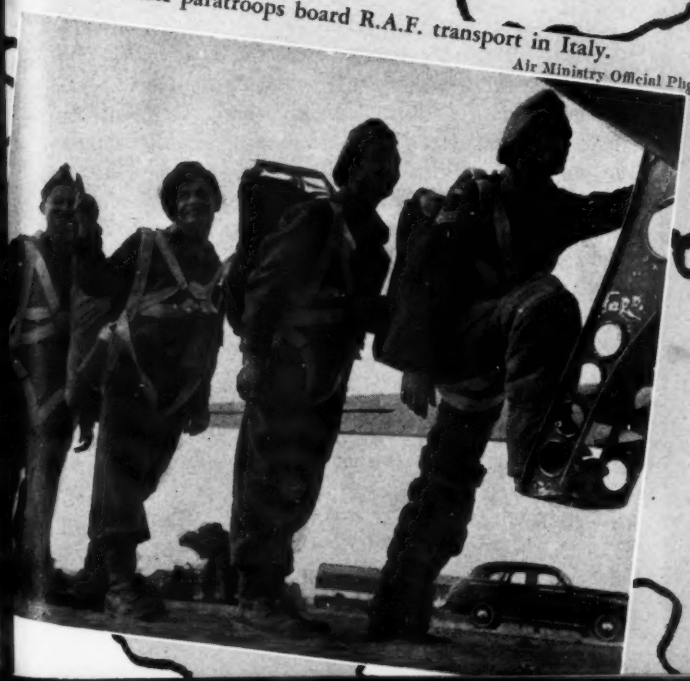
FRENCH poilus, equipped with American tanks, parade through Paris. U. S. Signal Corps Photo

RUSSIAN reconnaissance units reach East Prussian frontier. Sovfoto

RUSSIAN cavalry advance on Lublin, Poland. Sovfoto

Clear the road to glory,
Sound the rousing drum;
Now to end the story,
Tell the world we come!
Victory advances, land and air and sea,
Clear the road to glory till the whole
of the world is free!"

GREEK paratroops board R.A.F. transport in Italy. Air Ministry Official Photo



CANADIAN engineers celebrate opening of road in Normandy. Press Association

ARMOR IN BATTLE OF NOR

ANY military commentator who reads the contemporary military comment in the newspapers of the last war will emerge from that experience—as I myself have emerged—with the discovery that more often than not contemporary judgment is reversed by the verdict of history.

Is there then any immediate judgment that can be passed on the Battle of Normandy which may stand some chance of survival at the bar of history? I believe that there is one such judgment: The American employment of armor in this battle has registered an advance on the ideas of even the most fervent prewar exponents of the use of armor.

Destroyed and captured tanks of a German armored unit remain in one of the fields northwest of St. Lo. Track marks of the vehicles cover the fields, which are surrounded by the familiar hedgerows of Normandy. Narrow roads and hedgerows prohibited maneuver, and greatly limited armored warfare on the Normandy peninsula.

Press Association

Over-all Picture of the Battle

Whether or not by intention, the Normandy Battle conforms to an old pattern—a pattern successfully employed by General Montgomery in the Battle of El Alamein.

How was that decisive battle of the African war fought? At El Alamein, the Germans and Italians stood in dense formation on a 40-mile front between the sea and the desert, without a flank that could be turned. This portion of the desert, the Quattara Depression, was impassable for tanks. Through an elaborate deception in plan, General Montgomery set out to mislead the enemy about the time, place, and strength of the forthcoming attack. The Germans expected this attack to be delivered at the center of their line, and it was the intention of the German commander to allow British armor to pass through and then to counterattack from both flanks. The British put in the main attack in the north at a time when the German and Italian forces and half the German armor were pinned down in the south by divisionary operations.

What was the pattern of the Normandy Battle? In Normandy, the Allied forces had no room to maneuver, no enemy flank to turn; each flank of that 60-mile front rested on the sea. Again it was the basic plan to batter the enemy on a static line. Not until the Allied High Command was satisfied that the German forces in France were thoroughly committed on the Normandy front was the decision taken to assault and to break out. That decision was implemented on July 25.

During the course of this assault, the British and Canadians twice attacked at the eastern sector of the front. The first attack failed to achieve a break-through; the second succeeded in reaching its limited objectives. After this second attack, the British Guards Armored Division, which had taken part in it, was ordered to occupy the forward slope of captured ground in the neighborhood of Vaucelles, the factory area of Caen. During the following week they continued to occupy this slope in full view of the enemy.

Together these attacks—and the threat of more to come—served to draw the bulk of the German armor to this sector and to hold it there. This concentration of German armor at Caen enabled the American forces to achieve their break-through at St. Lo on the western sector—an advance whose admirable dash and vigor was

ORMANDY

British Army

Press Association Photos

A German tank burns on the side of a road in France, where it was pushed after having been knocked out by troops of the Canadian First Army during the push on Falaise. At right, wounded Canadian soldier gets first aid.

Gun flashes light up the night as British artillery begins an intensive barrage preparatory to an all-out attack against the German positions south of the French city of Caen. At the same time, a searchlight throws its beam skyward in an attempt to seek out enemy raider plains.

speedily supported by a renewed British advance in the center and a third Canadian attack in the east.

The Allied commander had now secured an enemy flank to turn. Unlimited room for a maneuver became available and at last the opportunity presented itself for the full exploitation of the Allied superiority of force.

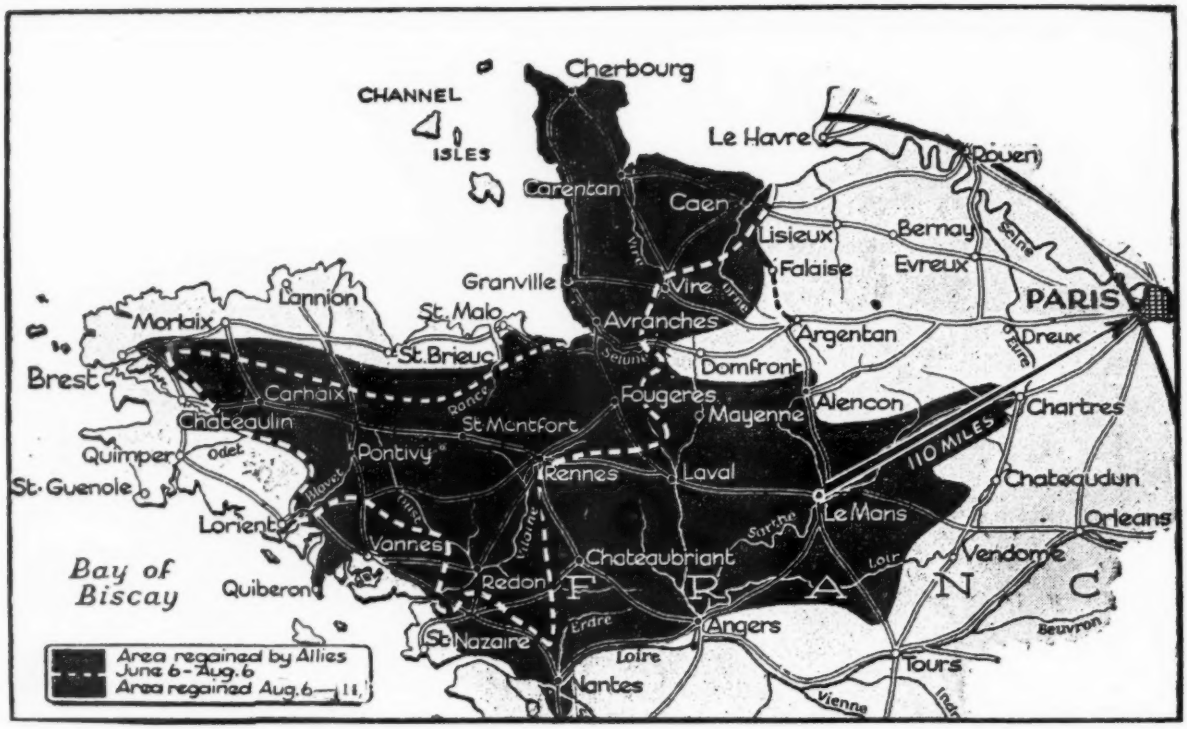
German Defense

Before asking precisely how this superiority was exploited, it is necessary to look at this old battlefield. Why did the Allied superiority of force achieve so little on the left of the line during earlier attacks? The answer is quite simple: the British and Canadians were up against elaborate defensive preparations on a short front held in great depth. Superficial obstacles to speedy advance were dug-in tanks and guns, concrete strongpoints, villages booby-trapped from one end to the other, minefields covering the approaches to these villages—these minefields themselves being covered by skilfully concealed 88mm guns—and tripwires in every likely or unlikely hedge.

Such obstacles are referred to as superficial, because the real strength of the defensive preparations lay in the German organization for fighting a defensive battle. This system, organized on the basis of elastic and mobile defense in great depth, comprises first a lightly held forward zone, designed to withstand the first shock of attack from both ground and air; second, the main battle zone, in which the defensive battle is fought out; and stationed immediately behind it, the counterattack organization—mainly armor—which may or may not be called into action. Thus any Allied advance in its initial stages could at best represent only a break-in.

Even so, in view of the unprecedented Allied air support, why was the break-in itself no more than an inch-by-inch advance on the bloody road to Falaise? The ultimate answer is not that the hilly and closely wooded country south of Caen was admirably suited for fighting a defensive battle; it is rather that under these conditions of terrain, the superior speed and maneuverability of Allied tanks was unable to offset the superior fire power of the heavier German models.

It is probably a waste of breath to discuss whether



or not Allied tanks equal German models, because comparison must always be qualified by conditions. The fact remains that tank commanders are generally agreed that if a column of Shermans met a few Tigers in a hedged and narrow road (and the average road in Normandy is both hedged and narrow) there would be nothing to do but turn tail—if there were room to turn.

In any event, the function of an armored division is not rough and tumble fighting, but exploitation and pursuit. If armored divisions are properly to be regarded as the modern equivalent of the cavalry, cruiser tanks should not be called upon to open a necessary gap in the enemy front.

The Caen Hinge

Thus, for 70 days after D Day, the unspectacular rôle of pounding against the strongest defenses encountered in northern France fell to the British and Canadian armies. Once the Caen "hinge" was broken, it became their equally unspectacular task to exterminate by invading force and establish sufficient strength to proceed. If the commander fails to resist that temptation to attack prematurely but launches tank and infantry forces into a deeply defended zone without secure lines of communications and without flank protection, he will invite disaster.

This picture of the eastern sector of the Normandy front is one of a defensive belt some ten miles deep. Quite obviously in the German view it was a critical sector. If it was lost, not merely the road to Paris but the coast line north to the Seine was lost, and the German High Command must have been well aware that its only chance of keeping a stable line in the west was to compress, and continue to compress, the now fully established Allied bridgehead.

Caen was the Stalingrad of the west: retreat would ultimately involve the ruin of the entire front. Nevertheless, it was the exploitation of the break-out battle, rather than the battle itself, that served to throw the German army off balance. It is safe to assume that the German High Command, even in its more imaginative moments, could not have contemplated such superb, and hitherto unequalled, demonstration of the modern use of armor.

General Patton's Use of Armor

Before this war, the sublimated use of armor—that is to say, its use outside the rather pedestrian sphere of close infantry support—was to strike at the *brain* of the enemy command or, in more specific terms, strike at the enemy's actual headquarter locations. Such was the foundation of the famous "Plan of 1919" for the use of British armor in France in World War I. That plan was never put into operation nor is there an example of it to be found in World War II.

It cannot be said that the British armored drive on Tunis in the African Campaign struck at the brain of the enemy commander. Rather it was a battering ram designed to split and rive and rend the whole of the enemy front. Again, encircling battles in the western desert—both British and German—were fought on a comparatively small arc and never did succeed in their main object—that of trapping large enemy forces.

On the other hand, the armored thrusts in France by Lt. General Patton's American Third Army have been true enveloping movements, perfectly conforming to

the old cavalry tradition from the point of view of disrupting enemy communications and of isolating enemy concentrations. It is in the amplitude of their conception, in their depth, and their wide dispersion that these great wheeling thrusts have made military history. They have brilliantly demonstrated what can be achieved by such thrusts against a widely dispersed and insufficiently mobile enemy. They have extinguished at a blow Germany's far-from-mythical "Atlantic Wall." They have vindicated General Patton's own battle creed "Attack rapidly, ruthlessly, viciously, and without rest." They have achieved the apotheosis of armor.

German Counterattack

Dramatic successes in war are rarely obtained without risk—and that risk was duly taken by the American Third Army. The German attack in the Vire sector which started on August 6 was intended to take the form of an armored thrust aimed at splitting the Allied front by cutting through the bottleneck at Avranches. At least four German armored divisions were allocated to it. The outcome of the battle was still unresolved a week later—when American troops were already across the Loire and engaged in mopping-up Brittany.

The German decision to undertake this all-out attack can hardly be regarded as an unjustifiable gamble. Indeed, in the view of the German High Command, it must have offered the highly favorable prospect of reversing the whole course of the Battle of France, for had it succeeded, the American First Army could have been resoundingly defeated in a straight fight, and the American Third Army would have found itself cut off in Brittany and utterly marooned in its thrust between the Loire and the Seine. The German High Command, however, reckoned without the tenacity and resilience of the American forces, the spell of fine weather, and the rocket-firing typhoons of the R.A.F.

It was on the morning of August 7 that the lifting of low clouds revealed a German concentration of armor near Mortain.* During the following week of battle something more than the equivalent of armor of a German armored division at full strength—that is, over 200 tanks—was put out of action from the air, apart from the havoc wrought among transport vehicles. It is a measure of the menace of the situation that the German attack was maintained despite these losses.

Conclusion

The policy of a "direct smash" at Germany in order to speed up the decision in the far east is magnificently succeeding, and must be a cause for gratification that the respective contributions of the Allied nations in the Battle of Normandy should have been so thoroughly representative. The British and Canadian armies—a large proportion of which had fought in other theaters of war—were called upon to display those dogged fighting qualities in which they excelled in World War I; and the American armies, newly arrived on the battlefield, were presented with an opportunity to exhibit those qualities of vigor and enterprise so eminently characteristic of the American temperament.

*See "Rocket Typhoons—Answer to Panzers," page 8.

An American tank races through La Chappelle on the heels of retreating Germans. On right is a wrecked German tank. After the break-through from Normandy, the speed of the Americans almost doubled the German blitz of 1940.

Press Association

ROCKET TYPHOONS

In the Battle of France, a new and startling anti-tank weapon destroyed German armor and made possible the sweeping victories of Allied arms.

What Are Typhoons?

by Major Oliver Steward

ROCKET typhoons are big for fighters. They have a wing span nearly 10 feet greater than that of the clipped-wing Spitfire but are small for their striking power. They can deliver an aimed and fully controlled blow at a greater range than other aircraft. They are the long arm of war, for they can reach out to otherwise inaccessible targets and hit them very hard.

Rocket-firing fighters translate the cavalry charge into mechanical terms. The typhoon, which has a 24-cylinder Sabre engine, has a top speed somewhere near 400 miles per hour, although it is slower when carrying rockets. After identifying its target it moves in to the attack in a dive. Perhaps it is more accurately likened to high speed artillery than to cavalry for it can outpace the fastest self-propelled gun and place a big charge on the target.

The rockets are on guide rails under each wing. The pilot sights much as he does for directing machine guns or cannon and fires the rockets electrically. Then the rockets leap from the guide rails and, stabilized by their tail fins, outpace the fast-moving aircraft and rush down on the target.

There is where the essentially aerial character of the rocket is seen, for although the warheads are large, there is none of the recoil of a comparable cannon. They combine lightness with strength. The aircraft does not check the rocket's course as it does when 40mm cannon are fired. Instead of the missile leaving the aircraft at top speed and slowing down on the way, its speed is accelerated as it approaches the target. There is no kick and plenty of ha'pence in the rocket missile.

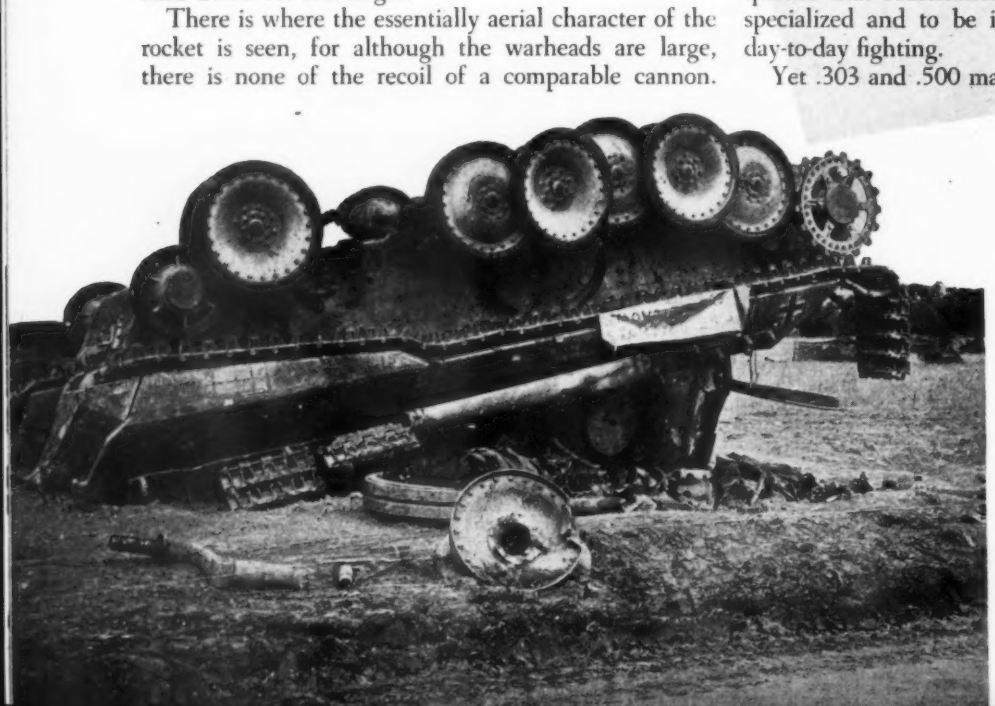
It is a pity that the official genius for using the wrong term has again been shown here and that the thing has been called a "rocket projectile." One thing it is not is a projectile. It is not thrown toward the target. It propels itself on its way.

Development of Present Rocket Tactics

During the North African campaign the belief developed that aircraft might be able to beat tanks if they could be given enough striking power.

The Hurricane 11-D was an attempt to provide this striking power. It carries two 44mm cannon, one under each wing, and a pair of machine guns. The original scheme was for the pilot to open fire with the machine guns, adjust his aim by their tracers and then turn on the cannon. Although a sound idea, its application met with practical difficulties. The kick of the cannon threw the aircraft off its course, and the only genuinely aimed shot was the first one. Again, it was found that 40mm cannon were suited to very few targets, with the consequence that Hurricanes tended to become too highly specialized and to be incapable of helping much in day-to-day fighting.

Yet .303 and .500 machine guns and 20mm cannon



Above: **A Rocket Projectile Typhoon takes off for a raid on the enemy. Eight Rockets are in grooves beneath the wings.** ***Left:*** **This German tank near Bretteville, southwest of Caen, was turned completely upside down as the result of attack by rocket-firing Typhoons, July, 1944. In addition to knocking out enemy tanks, Typhoons smashed German transport, supply columns, radio location installations from Brest to Belgian border; completely demoralized enemy communications.**

Answer to German Panzers

failed to hurt enemy tanks. Their projectiles bounced off with a sound such as made by dropping a dustbin. A 44mm cannon, which is the size of a Bofors, was only just big enough. Bigger cannon were suggested and a special 75mm cannon is now being mounted in front on some American medium bombers.

But the fundamental objection remains that with any kind of a gun, the projecting apparatus is heavy, out of all proportion to the charge that reaches the target.

Rockets are not new. Captain Albert Ball flew an aircraft with *Le Prieur* rockets in the war of 1914-1918. They were intended for attacks on airships and balloons but were, in fact, used successfully once or twice against enemy aircraft. They were carried on either side of the fuselage between the biplane wings of the machines of that time and were fired electrically.

The new thing about the present use of rockets is that they are successful against a large variety of small, well-protected ground targets and ships. Destroyers are reported to have been sunk by them.

In the rocket, the ground-attack aircraft has found the weapon that suits it best. It is possible that dive-bombing may one day be entirely superseded by rocket attacks.

Early in the war the Russians telescoped dive-bombing and rocket attacks when they fitted their Stormoviks with rocket bombs. But it seems that a specialized rocket attack is more useful.

The greatest of many successes scored by the British rocket-firing Typhoons was the damage wrought among German tanks which were moving up to counterattack in the Avranches region. Allied rocketeers are now being called in whenever the target is both small and thick-skinned. They are, I think, the most important of the new tactical air weapons.

The future will probably see increases in the size of the rocket. Americans have reported being attacked by German fighters firing rockets with warheads of eight-inch diameters. At any rate, it is clear that the military development of some kinds of aircraft will be bound up with the development of this weapon.

Typhoons in France

by Wing Commander L. V. Fraser

EVERY day that the Allied offensive bit through Normandy, the power of a new air weapon—which has been developed into a major arm in the last few months—was strikingly demonstrated. It is the rocket.

Rockets have sprung into prominence in the last stages of this European war much as tanks did in World War I. On all sides there is talk of rockets. Some time ago London's antiaircraft barrage developed batteries of rocket guns to protect the skies against the Luftwaffe. Russian Stormoviks sweep down against German tanks on the eastern front with some similar rocket device. The Germans for their part threaten London with the "V-2," which is thought to be some sort of rocket shell. The battles in Normandy witnessed the first big-scale use in Europe of rockets fired from aircraft.

Neutralizing Enemy Radio

The Typhoons' first big assignment came a few hours after British and United States troops landed on French soil. They were required to put out of action every enemy radio station from Belgium to Brest; and their efforts were an outstanding success. Subsequent estimates claimed that 95 per cent of the radio chain had been silenced. The odd five per cent were jammed.

The entire German warning system was thrown into confusion. A string of silent radio stations along the coastal belt meant that enemy headquarters inland failed to receive adequate warning of the invasion. This factor, combined with a shattering attack on selected coastal batteries, was a direct means of saving thousands of Allied lives. It contributed in great measure to the unqualified success of the initial landings.

In order to fox the enemy, a large area had to be attacked. Heavy concentration upon one group of radio stations would have been plain indication of the point of attack. So the Typhoons swept a huge area, and the

British Official Photo

An R.A.F. ground crew loads a Typhoon with rocket projectiles on airstrip in France. Note rails for placing rockets. Rocket case consists of a shell is ignited by a small platinum tube filled with cordite which wire. The consequent flow of gas issuing from the tail propels the rocket and its warhead along the rails in the sighted direction. Four fins are fitted to the trailing end of the rocket for stabilization in flight. An aircraft can carry eight projectiles and has the advantage of being able to fire either two at a time or a salvo of all eight at one target.

principal purpose of the raid—to reduce the enemy's warning system to impotence—was achieved.

With the invasion in full swing and the radio stations silent, the "Rocketeers" turned their attention to keeping the Channel clear for the stream of Allied supplies coming to the beachheads. They were particularly successful off St. Heiler, Jersey, where Typhoons, escorted by Spitfires, scored direct hits on three minesweepers after diving low over the vessels. On the island of Jersey itself, other R.A.F. rocket-firing aircraft swept down on another radio station and its adjoining buildings.

Destroying Transportation

As the invasion pushed inland, rocket-firing aircraft ranged ahead, seeking out and destroying any suitable target beyond the "bomb line"—the limit behind which Allied troops were operating.

All these aircraft are "free lance" and have a freedom of action unknown to formations detailed to bomb special targets. They may range where they will within a given area and single out any object worthy of attack. In this way, German reinforcements struggling to reach the battle areas over a tract of country shorn of its bridges and uninterrupted rail sectors, were obliged to face murderous fire.

Time and again during the Battle of France formations of rocket-firing Typhoons swept down on convoys, tanks and transport and staff cars moving north and northwest from depots of central France to the front line. Returning pilots told of the enemy's frenzied dashes for the woods, and of convoys of flaming trucks abandoned along the highways.

Trains waiting at stations were singled out for attack and more of Germany's precious rolling-stock written off as R.A.F. machines dived down and aimed their projectiles at the target by the simple process of "pointing" their aircraft in the required direction. In order to assess the damage they had done, pilots had to peel off and circle immediately their discharges had been made.

Some of the R.A.F. pilots operating rocket-firing Typhoons over the battle area have first-hand knowledge of the ground. They have motored and spent their holidays there in peacetime. This gave them a special advantage when they were over the heavily wooded country behind sections of the Normandy bomb line.

Technique of Attack

Although a pilot of a rocket-firing aircraft is, broadly speaking, a free lance unless directed against a specific target, formation attacks are naturally coördinated. Thus, when a squadron of Typhoons set out to attack a column of tanks on one occasion, the wing commander directed each aircraft to a tank. All dived to attack; each fired a salvo. Observation showed that six tanks had been smashed, set on fire, or blasted from the highway.

Describing the technique of attacking with rockets, fighter pilots state that the sights are adjusted according to the angle of attack and the projectile loosed when the target actually comes into view. There is no sensation at all. The rockets glide from the three rails without rebound or concussion, but action to get out of the dive must be taken immediately in order to avoid being blasted by the subsequent explosion.

As the forces of Britain and the United States press farther into Europe and the bomb line moves eastward to Germany, rocket-firing planes will penetrate deeper into the interior to harass the Nazis. They will seek

out and destroy every contingent of men and materials that Germany sends to reinforce her hard-pressed battle troops. In so doing, they will not only lighten the task of the Allies' liberating armies, but will contribute to the steady drain on the enemy's limited means of transport and replacement. The rocket projectile is adding its quota to the various means employed to overthrow an army now largely devoid of air support.

Typhoons vs. Tanks at Mortain

by R.A.F. Adviser to British Information Services

THE success of the R.A.F. rocket-firing Typhoons in smashing the German armored counterattack against the Americans at Mortain might never have been achieved had it not been for a chance patrol two weeks after D Day. Until that time many senior officers did not believe that the Typhoon rocket could hit and knock out a moving tank.

A flight of Typhoons had been sent out on an armed reconnaissance trip in France and they had been given a list of targets to look for. "If you can't find them," they were told, "take a crack at any road transport that you see."

The Typhoons did not find any of the specified targets and they did not see any road transport, but they did encounter three Tiger tanks and went into the attack. All three tanks were knocked over on their sides and two of them were left burning. The Typhoons had proved beyond any doubt that they could do it.

That is how it was that a certain American commander, when he saw the German tanks coming at Mortain, immediately thought of the Typhoons. Cutting right across all the red tape he telephoned direct to the R.A.F. and asked them to send some "Typhies" over at once.

"A pleasure," said the R.A.F. And to everyone concerned except the German tank crews it certainly was a pleasure. Working a shuttle service until it got too dark to see, the Typhoons got to work on the tanks with such good effect that they destroyed 81; and probably destroyed 27 more and damaged a further 27. The attack was completely broken.

Alan Melville, BBC correspondent in France, was able to visit the scene of this attack, and here is his picture of those damaged and destroyed German tanks.

"Those that are damaged are really damaged. Those that are destroyed are no more. It is hard to imagine how anything can make an impression on the hide of a Panther tank, but there they are, lying in the fields north of Gavray for anyone to see, the plates of their turrets split and ripped wide open, flung on the grass as far as 50 yards away from the rest of the tanks, some with the track torn off completely. One turned upside down is lying with its turret crumpled up under it. . . . It had been rocketed upside down. All around, ammunition, pieces of equipment, bits of instruments are scattered over the fields."

British Official Photo

These German tanks and transport were devastated by rocket-firing Typhoons. While assisting American ground forces at Coutance, R.A.F. Typhoons in one day of "shuttle service" claimed more than 30 tanks destroyed, in addition to armored and other vehicles. After checking the area American intelligence officers later officially credited the Typhoons with 50 tanks. In effect, they had accounted for about half of the total armor of a German panzer division.

Press Association

American tanks, with armed infantrymen aboard as passengers, stream through the French city of Coutances as they press forward their attack, following a break-through in the enemy lines. Armor poured through the gap in great strength.

by Captain Arthur L. Paddock, Jr.

THE Allied drive toward Germany, over hallowed battlegrounds of World War I where hundreds of thousands of French poilus and American doughboys spilled their blood, has been as economical in casualties as it has been rapid in movement. The American First and Third Armies, commanded respectively by Lt. General Courtney R. Hodges and Lt. General George S. Patton, Jr., with a lightning-fast armored force spearheading each drive, have swept toward the Siegfried line with greater speed and finesse than Hitler's blitzkrieg of 1939-40—and it is because the Allies have perfected to a fine science the infantry-artillery-tank-air force team.

The armored division for the first time was employed over a sustained period as its progenitors visualized it. A powerful force led by tanks, closely supported by motorized or armored infantry and mobile artillery, methodically, yet speedily, tore to shreds the German divisions deployed against it. Jumping off from positions near St. Lo, against the sea, on July 26, armored columns pounded 5 miles through the difficult hedgerow country of Normandy in the first day's action. By the second day they had passed Marcigny and were within medium artillery range of Coutances, squeezing the jaws of a trap which held seven Boche divisions, including the 2d and 18th Panzer Divisions.

It was not until the seventh day, August 2d, however, that American armor began to roll with great speed. Bursting out of the relatively narrow Normandy salient, Yank tanks spilled into Brittany and the American 6th Armored Division, never before in battle, sped 140 miles down the Breton peninsula into the gates of Brest. Another column, in General Patton's Third Army, swung through Rennes and headed toward Paris. Covering 125 miles in a week, it broke through the Germans' best natural defense barrier before the historic French capital at the Sarthe River.

By that time all who would look could see that Lt. General Omar Bradley's plans called for a mighty infantry-artillery-tank-air team—a 1944-model blitzkrieg that knew no parallel in history—to carry the fight into Berlin. Infantry, riding on tanks, in light armored vehicles, sometimes on Shank's mare, mopped up after the fast-moving tanks, consolidated gains, swiftly herded thousands of demoralized German prisoners to the rear and continued to press on.

The armored division was employed in mass against powerful opposition perhaps for the first time since Mateur and Tunis, with the possible exception of the American 2d Armored's end-run to Palermo in Sicily when Patton commanded the Seventh.

That same 2d Armored, the "Hell-on-Wheels" outfit which had landed on November 8, 1942, at Safi and Port Lyautey and again in July of 1943 in Sicily, now

ning War—U. S. Style

under the command of Major General Edward H. Brooks, spearheaded the drive in France. Likewise the 3d Armored, commanded by Major General Leroy H. Watson, and the 4th, under the command of Major General John S. Wood.

By the first week in September Patton's columns had pounded into Verdun, the historic French city where, many of his men recalled, their own fathers had bled and died in 1917-18. In less than a day General Patton's army had taken ground that in World War I had required 4 years of relentless pounding and copious bloodshed to take.

Meanwhile, armored columns of General Hodges' First Army, operating on the left flank, had trained their guns on the Belgian frontier and seriously imperiled the right abutment of the Siegfried line.

Here, too, the armored division and the various separate tank units were being committed to employment as its experts had dreamed. Tank columns were closely supported by infantry and artillery. Deadly air activity broke through to mill around in the enemy's rear, disorganize his supplies, his reserves, his morale, and his communications. With bit in teeth, armor charged across the quiet French country toward Germany.

It was an Allied reincarnation of the German blitzkrieg of 1939, only it was a better blitzkrieg. It was planned with care and carried out with precision. General Bradley's headquarters imposed radio silence in the armored columns. By refusing to disclose the last reported position of armor in its drive toward Sedan, General Bradley both disconcerted and disorganized the enemy. They knew not where to expect the Yanks. Often the muzzles of the Sherman 75's and the clatter of tank treads were at their back door by surprise.

The whole operation, commencing in late July and climaxing a month later with the capture of Paris, was typical of what had been laid down as proper doctrine for tank units. Surprise the enemy. Strike him from the flank and rear while holding him down on the front. Break down his communications, tear into his reserves, destroy his supplies.

If it can be said that there was any one factor responsible for the success of the British, Canadian, American and other Allied troops in the drive on Verdun, it was the unity of effort—the close coöperation of all arms—tanks, infantry, artillery, engineers, mechanized cavalry, and air.

Also characteristic of the Allied drive was the audacity of maneuver, which the Russians have developed to such a high skill, and which Hitler's own Panzers initiated in 1939 to demoralize and destroy a frightened and ill-equipped French army. Early in the Normandy campaign, the tank-infantry team—with infantry and engineers breaching each individual hedgerow with the close support of Shermans and Stuarts—had come into its own.

When, on July 28, the Americans had passed Marcigny, the powerful armored columns took every advantage of the disorganized enemy. By sweeping to the front and pushing swiftly to the German rear, they isolated at least 15 German divisions and accounted for thousands of prisoners.

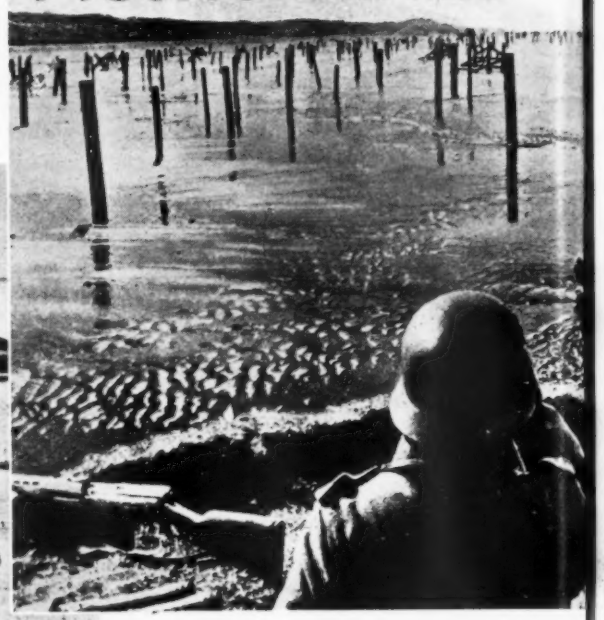
It was a campaign that would have gladdened the heart of a Jeb Stuart and a Nathaniel Forrest: Generals Patton and Hodges were hitting 'em "fustest with the mostest," and as Wee Willie Keeler once said, "Hitting 'em where they ain't." The tanks were doing it, but without the infantry and the artillery and the engineers and the air they would not have done so.

Blitzkreig, 1944, was a new application and a new technique of a science which had been developed five years before. Only now, its originators were feeling the pain of a better mousetrap.

Approximate Allied advance up to September 1.

The "Impregnable" Netherlands

*by Selden Menefee**



Above: **German soldier mans a pillbox at ebb tide along the Dutch coast.** ***Left:*** **Small Dutch farm houses are isolated in area flooded with sea water by Germans.**

Photos Netherlands Information Bureau

WHEN American and British troops drove north through Belgium and into the Netherlands early in September, they outflanked one of the most formidable systems of fortification the world has even seen.

Four years of concentrated effort had been poured into building the Dutch sector of the Atlantic Wall. It contained all of the coastal defense installations that were encountered in Normandy, backed up by great expanses of flooded lowlands, which would have made a deep thrust inland from the coast by Allied mechanized units extremely difficult, if not impossible. The whole system was intended by the Nazis to remove the threat of invasion in that sector, so that they could concentrate their manpower on defending the remainder of Europe's west coast.

The Nazi's labor and matériel went for naught. Their coastal fortifications were largely useless once armored columns had penetrated the Netherlands from the South—as useless as was the Maginot line when it was outflanked in 1940.

Reports from inside Holland before the breakthrough indicated that by July of this year over 300,000 acres of farm land had been flooded, and a million persons consequently driven from their homes. Reconnaissance reports on September 1 further showed that the Germans had extended their inundation measures by destroying a system of temporary dikes, erected to enable the Germans to harvest crops from some sections of large drainage areas while flooding other sections. But the Germans were not permitted to stay for the harvest—at least, not in Southern Holland. (Some of the flooded land may be useless for several years while it is being drained again and cleansed of salt deposits.)

By August 1 a total of 61 Dutch towns, along the coast as well as in flooded areas, had been completely evacuated of civilians by the Germans. In the coastal city of The Hague, capital of the Netherlands, close to 100,000 people were evacuated and all buildings cleared from a strip of land through a thickly populated section of the city, 600 feet wide and a mile and a half back from the shore, to make room for tank traps and gun emplacements. Devastation of this sort has probably destroyed as many dwellings as all the bombings of Dutch towns and cities during this war.

Despite all of these defense measures, however, there is plenty of evidence that the Nazis were uneasy about Holland. On April 26, 350 medium bombers of the RAF and the American 9th Air Force raided the vital Dutch seaport of Ijmuiden, at the coastal end of the Amsterdam shipping canal.

According to eyewitness reports the attackers lost only one plane while they destroyed many coastal pillboxes, smashed concrete pens for E-boats and trawlers, blew up munitions dumps, damaged vital war plants and eliminated 600 Nazi troops, 400 of whom were killed when their air raid shelter sustained a direct hit. German antiaircraft guns on the beach and on ships off the coast were quickly silenced by the planes' machine guns and bombs. As a result of the

*Director, Washington Office, Netherlands Information Bureau.

panicky behavior exhibited by many German soldiers and sailors during the raid, seasoned veterans were reported to have been sent in as replacements.

Late in May, Field Marshal Erwin Rommel issued an order of the day admitting that more and more German soldiers on the invasion coast of Holland as well as Belgium and France were deserting. Rommel prohibited the issuance of leave passes to soldiers and forbade all contact between the soldiers and the local population.

Meanwhile, the Germans were gradually evacuating their nationals from the coastal region, and moving administrative offices of the Nazi-controlled government inland from The Hague, Amsterdam and other cities on or near the coast.

New signs of the "invasion jitters" appeared when news of the Allied landings in France reached Holland. These Nazi jitters were intensified by General Eisenhower's repeated warnings to Dutch and Norwegian fishermen to stay away from the coastal waters of their respective countries. Reports via Stockholm said that only 15 per cent of the Dutch Nazi *landwacht* (land army) reported to its barracks when the alarm sounded on June 6. Unable to trust the Dutch, the Nazis brought in German railway crews from the Reich and Hungarian and Croat troops and police to guard against sabotage and invasion. The Dutch were warned not to moor small boats in waterways near the coast under threat of confiscation or destruction.

Late in July, a 10 p.m. curfew was placed in effect throughout occupied Holland. German and Dutch Nazis were warned to hoard concentrated food rations and keep their bags packed for quick evacuation. German civilians who were not evacuated, and even officers, began to ask Hollanders with whom they had been in contact for "certificates of good behavior," and German soldiers tried to buy forged Dutch citizenship papers as insurance against an Allied victory. On September 5 it was reported by the Dutch underground that all Germans in Holland had been put in uniform.

Shortly after the Normandy landings in June, Arthur Seyss-Inquart, Reich Commissar for the Netherlands, had declared a state of siege and threatened death penalties for sabotaging German defenses, hiding members of the underground army, aiding Allied airmen, or failing to inform the German authorities of fallen planes or materials dropped by parachute to the underground.

At the same time, the Nazis mobilized all male residents of Rotterdam between the ages of 18 and 50, and schoolboys 16 and over, to work on the Germans' defense works. And a new attempt was made to recruit labor for German industry, which had already cornered close to 500,000 Dutch workers in the course of a four-year manhunt. Again, however, Nazi plans did not work too well. The doughty Dutch sabotaged the invaders at every turn. On August 10 Max Bolokzijl, Nazi radio spokesman, complained that "shirkers and their accomplices . . . form a substantial majority."

A final factor in paving the way for Allied invasion was the well organized underground movement in Holland. Although the country is so flat that there was little chance to develop outright guerrilla resistance of the French Maquis type, the 250,000 "under-divers" were well organized and helped the Allies at every turn.

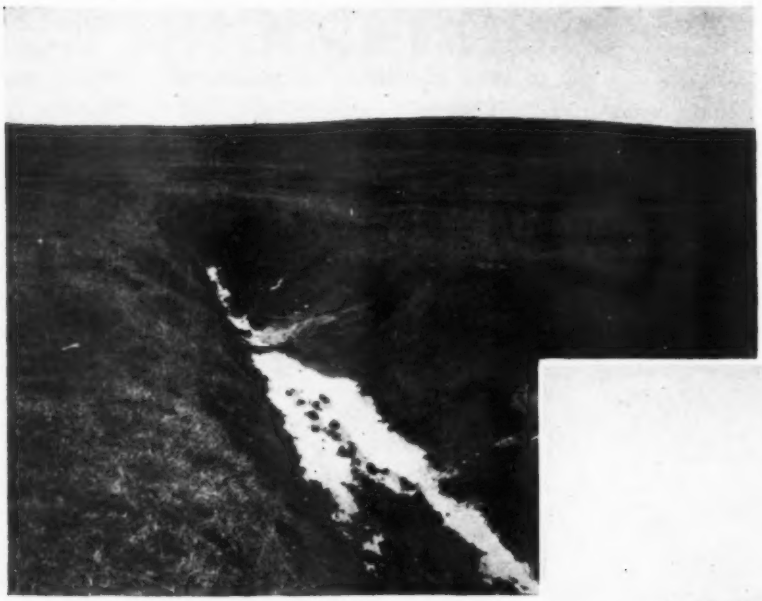
In the beginning, on June 6, they were told by Dutch Premier Pieter S. Gerbrandy to refrain from premature acts of violence in order to avoid retaliation, but to engage in passive resistance of a type which would be hard to detect. The underground itself warned its members of German plans to demolish everything and kill all anti-Nazi suspects as they retreated, and gave its members detailed instruction on how to thwart the German plot to ruin if they could not rule. Other instructions were sent to Dutch workers in German forced labor camps. General Eisenhower recognized the importance of the Dutch underground by accepting the appointment of Prince Bernhard, husband of Princess Juliana and an officer in the RAF, as commander of the Netherlands Forces of the Interior, and by appealing to Dutch patriots in Rotterdam to prevent German destruction of harbor facilities. The Forces of the Interior coöperated with the Allied high command at every turn.

Meanwhile, free Dutch forces were doing their part on the outside. When the break-through into Holland came, the Netherlands Army's Princess Irene Brigade, attached to the Canadian Army, was mopping up German pockets around Le Havre. The Dutch air force, operating with the RAF and the Royal British Navy, had been active throughout the French Campaign. Dutch naval and merchant ships, which had been included in the Normandy invasion fleet, as they had been earlier in the landings on Sicily and Italy, assisted in bottling up the channel harbors.

One of the first acts of the Dutch Government after the Allies entered Holland was to be the establishment of machinery for recruiting a sizable army for the war against Japan. Netherlands Marine cadres have been training at Camp LeJeune, New River, North Carolina, and other U. S. Marine camps. They will be the core of this new army. Other segments of it are now being trained in Australia by former guerrilla fighters from Timor, and the Netherlands Indies Air Force has already been blasting their way back into the islands for almost two years. With nine million Netherlanders freed from the Nazi heel, the Dutch will play a much larger part in freeing the East Indies than they were able to play in the liberation of their home country.

How the Nazis Outsmarted Themselves in Holland

Tanks



Over open country, such as shown here, tanks bogged down, infantry plodded through mud and fire.

Beyond the open terrain of the beachhead, Germans occupied the mountain ridges, in strength and harassed the beachhead force with heavy artillery fire.

by
1st Lieutenant
Richard K. Gottschall

THE drive on Rome began not on May 23, 1944, but four months earlier when the first wave of boats touched the Italian shore near Anzio. The drive was delayed for four months by an enemy determined to hold his Cassino line or else make the Allies drive to the north so costly as to be worthless.

Despite the failure of the beachhead to force withdrawal of the German forces from the Cassino line, the 90-square-mile toe-hold at Anzio compelled the Germans to throw division after division against it, and in so doing, weakened both the Cassino line and the German reserve in Italy. Undoubtedly, this attrition contributed greatly to the final break in the Cassino line and the capture of Rome four months later. As an attempt to flank the Gustave line the beachhead did not fail, but it did present a problem considerably more difficult than the Allies had planned.

The 1st Armored Division, less Combat Command "B," was sent to Anzio to provide a mobile striking force capable of reaching important road nets and trapping German troops on the southern front. It was planned that the division would be available for combat on January 29, seven days after the first elements of the beachhead force had landed.

The dogged German resistance that developed on the beachhead front and Nazi determination to hold the Cassino line at all costs altered the mission of the division while the beachhead was still young.

From an attacking force with visions of cutting the roads leading south from Rome, the division became a counterattacking force with the mission of stopping any penetration of the beachhead defenses.

Initial Plan for Attack

On January 25, division headquarters disembarked at Anzio, and within the next four days closed in its designated assembly area. Orders were then issued to attack the following morning on the left of the corps. Using the Anzio-Albano highway as an axis of advance, the tanks were to push forward and secure the high ground above Lake Albano.

Combat Command "A," which then consisted of two tank battalions, a battalion of infantry, a battalion of field artillery and a company from both the reconnaissance and engineer battalions, was ordered to secure the line of departure for the attack. For this preliminary attack CCA used two companies of tanks and the reconnaissance company, but was unable to advance more than 2,000 yards. The line was outposted during the night preparatory to the attack in the morning.

s in Static Defense--

1st Armored Division at Anzio

Before the attack could be launched, however, the medium tank battalion was withdrawn from the combat command and sent to the right of the highway, to aid the British, who were receiving an armored counterattack from the Germans.

The withdrawal of the armor, while it materially assisted the advance of the British, necessitated complete revamping of the 1st Armored Division's plan of attack. There was no time for more than hasty planning. The two battalions of infantry, reinforced by only a battalion of light tanks, lacked the necessary power to advance more than 1,000 yards.

With the attack abandoned, a tank battalion was detailed to make a reconnaissance in force up the highway to the railroad. Given only an hour's notice of their mission, the tanks had no time to reconnoiter or plan their raid. The battalion was forced to turn back after going another 1,000 yards.

The same day the remainder of the tank regiment was dispatched, still with little advance notice, to assist a British attack up the highway to secure a road junction north of the railroad. Again the raid failed to reach its objective, although the increased force was able to advance as far as the railroad.

It was obvious by that time that the American forces, as they then stood, could not make any appreciable gains against the troops the Germans had thrown into the line. Mud, consistently an important factor in slowing down any armored attack, made every road a defile. There was no opportunity to employ the division in its intended rôle.

Beachhead Defense

With the decision to go on the defensive in the beachhead area, the division was ordered into corps reserve with the mission of being prepared to counterattack in any direction to block or cut off enemy penetration.

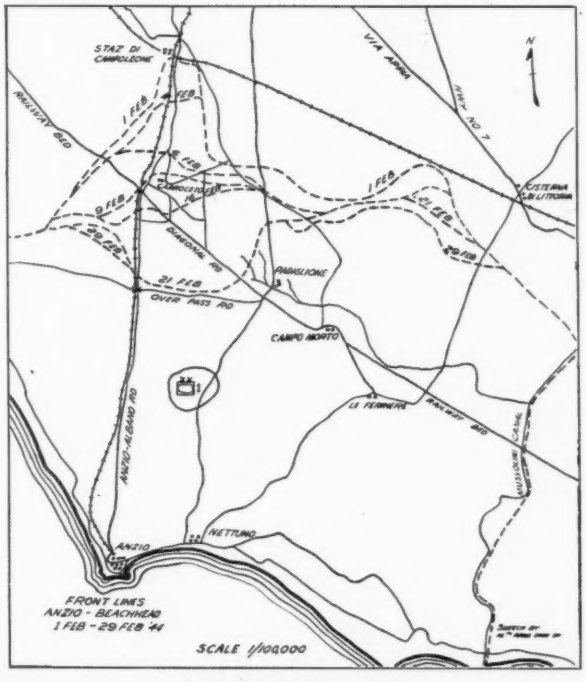
Conditions on the front line were almost intolerable for the infantry, whose sole jobs were patrolling and holding. In the east a natural barrier, the Mussolini Canal, eased the American-Canadian defense, but in the north a broad plain stretched to the hills. Dotted with innumerable Italian stone houses, that were often used to shelter German machine guns, the flat area afforded good fields of fire, and the swampy ground prevented the infantrymen from digging in. Infantry positions, therefore, were necessarily built above ground from layers of sandbags, easy to see, easy to hit.

On the left of the Albano highway, the British defended a sector that was fronted with a series of lateral wadis, which offered cover and concealment to the enemy attacker. The beachhead could be defended, but the fury of the German attacks against it made it a costly defense.

The area to the north, between the American and British sectors of the line, seemed to be the most probable line of approach for a full-strength enemy attack. The Anzio-Albano highway offered a good axis of advance and was probably the most favored of the approaches because it offered to the Germans the quickest route to Anzio and disruption of the beachhead.

It was obvious as the weather then was, that the use of tanks in a counterattack was strictly limited. The brunt of the assault would have to be borne by infantry, and in the seven counterattack plans finally drawn up a reserve infantry regiment was to be attached to the 1st Armored Division.

The strongest possibility of enemy armored action, in strength, was felt to be down either the west coast road or the Anzio-Albano highway. In order that the division, in its counterattack-force rôle, should have the



Anzio Beachhead Area.

earliest possible notice of enemy attack, listening and observation posts were established along the front line by the reconnaissance battalion. Direct fire positions were prepared for a battalion of medium tanks and two companies of tank destroyers, and indirect fire positions for the division artillery. The tank destroyer battalion and one battalion of medium tanks were prepared within the beachhead to cover both of these two most probable avenues of approach; also for the Cisterna road-net beyond the Mussolini Canal.

Without altering the primary mission of the division, a corps order directed that a secondary line of defensive positions be prepared to back up the front-line units. Thereupon the engineer battalion and the armored infantry regiment went to work. In addition to the defensive positions, and extensive wire and mine laying operations, the engineers were responsible for construction and maintenance of the road-nets necessary for division use in counterattack.

Rubble from the bombed and shelled Italian houses became the main material used to surface the roads. The problem of draining the roads, which became seas of mud after every rain, presented no easy task, and work details were drawn from virtually every unit of the division.

As the Germans hammered at the ring of beachhead defenses, their artillery fire and aerial bombardment increased steadily, and the division gradually went "underground." From sleeping on top of the ground, the men went first to shallow prone shelters, and finally to comparatively elaborate dugouts walled and roofed. The enemy's use of harassing artillery fire and small antipersonnel bombs, about the size of a hand grenade, forced the beachhead units to live almost entirely in dugouts with roofs made of salvaged lumber and covered by at least 6 inches of earth.

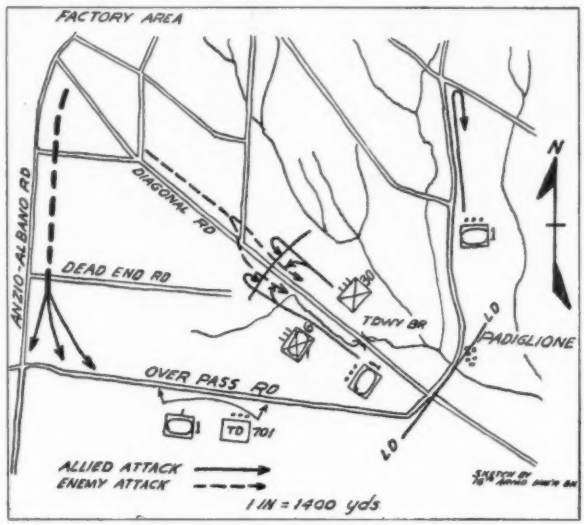
The bulk of the division was bivouacked in a pine grove which afforded excellent concealment. The sandy earth was easy to dig, and although the area was heavily shelled, casualties were light. The number of vehicles damaged was similarly low.

During the early part of February the division's tanks participated in two small raids. In one, the tank furnished armored support to a parachute battalion; and in the other, a battalion of tanks was sent toward the factory area in an attempt to restore the line. Neither raid, however, was successful. Boggy ground forced the tanks to stay on the roads, which were covered by German antitank fire. Again, because of the short time allowed for preparation, it was not possible for either raid to be planned thoroughly.

Tank Attack—Battle of the "Diagonal" Road

The attack of February 19 astride the "Diagonal" road, leading from southwest of Padiglione to the factory area, was as successful as its two predecessors were not.

Although the Germans had consistently attacked the beachhead defenses, it was not until February 16 that they had assembled enough infantry and armor to launch a full-scale offensive against the Allied lines.



Diagonal Road.

With elements of 7 divisions, and an estimated 60 tanks, the Germans blasted their way to the Overpass road. Allied artillery chewed to pieces initial waves of the German assault, and small-arms fire of the American and British infantry on the line exacted a similar toll. But the sheer weight of superior numbers forced a rearrangement of the line. Although by February 17 German casualties had reached an appalling total, the force of the enemy attack still constituted a very real threat to the beachhead. American and British infantry holding the German lines had suffered almost as severely as the enemy. It was at that point that the 1st Armored Division was ordered by corps to put plan "Diagonal" into effect the following morning.

The German force had stopped to regroup and reorganize, but was apparently prepared to continue its drive to the sea the following day.

For the Diagonal attack, the 30th Infantry Regiment was attached to the division at noon on February 18th. The plan was to attack astride the road, with the 30th Infantry on the right and the division's own armored infantry on the left. Tanks would support the attack as much as possible, although it was expected that they would be limited to the road because of the continued rains.

About 2,000 yards beyond the junction of the Diagonal and Overpass roads there was a road gap where a bridge had been destroyed by the beachhead forces in an effort to improve their defensive position. Armored support would be stopped there if the bridge could not be repaired in time for the division's attack. The gap, which could not be by-passed, presented an effective tank obstacle.

Informed that the bridge gap was still in Allied hands, a bridging crew of two officers and 14 men was sent out from the engineer battalion. They found the bridge was outside the Allied lines.

A strong German patrol compelled the bridging

party to withdraw. The crew was forced to leave its bridging truck, and the project was abandoned until the next day. At 0530 the 1st Armored Division attacked from the vicinity of Padiglione in accordance with their prearranged plan. A one-half hour artillery preparation was fired, and the infantry regiments crossed the line of departure. Mud forced the division to limit its armor to a platoon of medium tanks operating up the road between the two infantry units. A company of tanks and a platoon of tank destroyers were emplaced along the Overpass road to provide further fire support, and a third armored force was disaptched up the road leading north from Padiglione to protect the division right.

To provide maximum armored support to the attacking columns, a shuttle system was operated up the Diagonal road. The platoon of tanks leading the attack would be replaced immediately by a reserve platoon as soon as the ammunition of the first had been fired. The road was the only possible surface from which the tanks could operate.

When the infantry reached a point 1,000 yards beyond the blown bridge, the engineer crew, which was again called out, found that the abutments had been blown by the German patrol of the night before. In broad daylight the crew set to work. Unexpectedly, the bridge truck had not been destroyed by the German patrol, and outside of small arms and shrapnel holes in the body, it was undamaged. The bridging material was intact, and the truck was in condition to operate.

Ducking into the stream bed while the Germans poured artillery on them, the crew worked feverishly to bridge the gap. Every sign of activity around the bridge brought a fresh barrage, but the bridge was erected, the crew evacuated, and the equipment removed.

As the tanks crossed the bridge the attack moved ahead, and the American force contacted a German column that had attacked from the opposite direction. The German force, already depleted by American artillery fire, was routed by the tank and small-arms fire from the fresh troops of the 1st Armored column. The Germans, unaware of the division's attack, had expected to meet an exhausted enemy.

A 1st Armored Division tank leaves assembly area near Anzio about February 18 for battle on Diagonal road.

German equipment lies scattered along the Overpass road after 1st Armored Division and infantry made advance of 2,000 yards. Gain was relinquished for lack of reserves.

At dark the infantry commanders reported virtually no opposition, but were ordered to halt their attack. German dead and wounded littered the fields; 143 prisoners had been taken.

The back of the German force had obviously been broken, but if the attack were pushed to the factory area, there would be no available reserve for the beachhead. The infantry divisions that had withstood the brunt of the German attack were depleted. Their lines could not be drawn up to cover the ground captured by the division, and a withdrawal was ordered.

During the night, the division was withdrawn and again reverted to corps reserve. The bridging crew was again sent out, this time to remove the bridge they had erected. The division mission of a mobile counterattack force was unchanged.

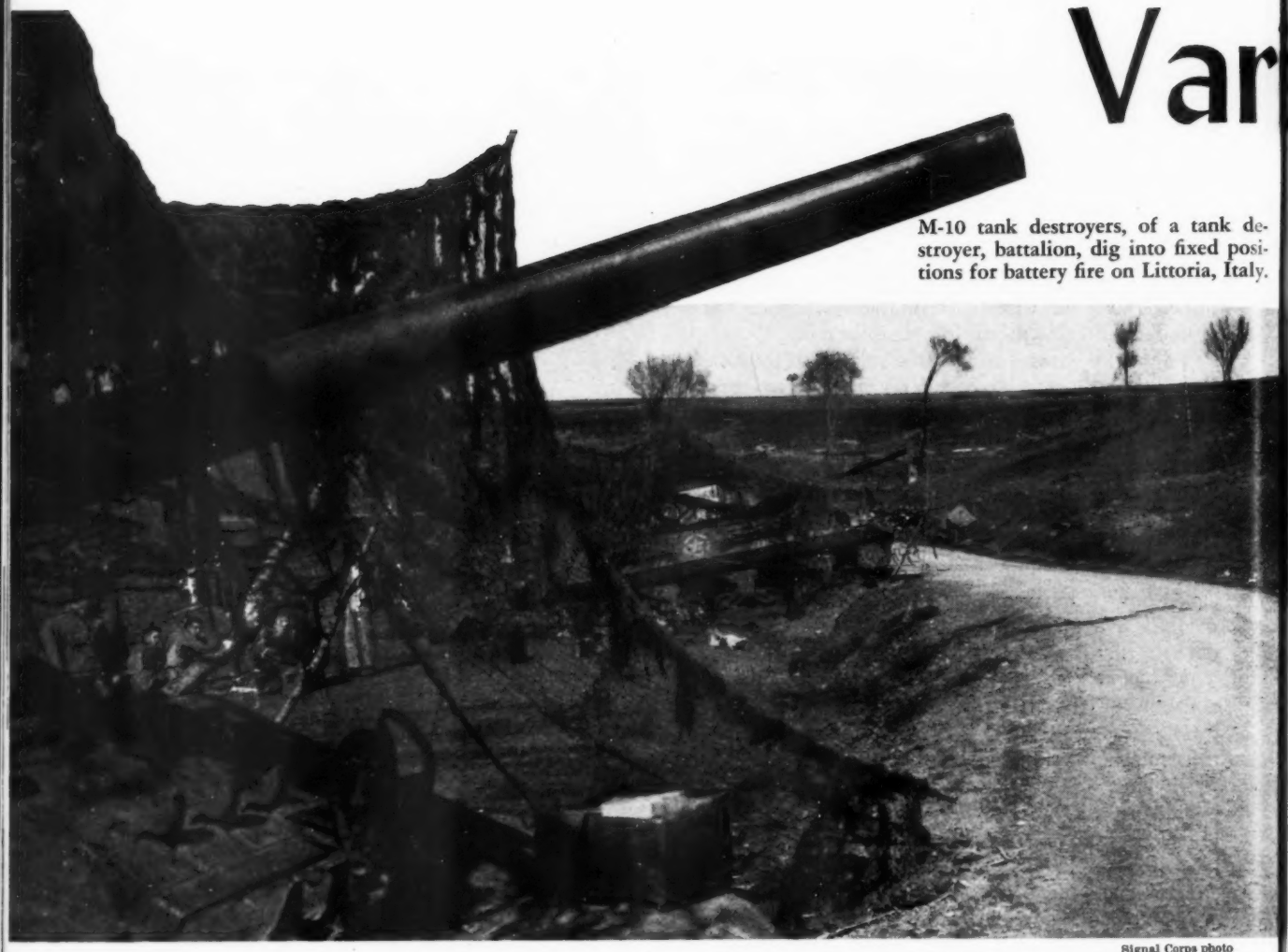
It became apparent in a matter of days that the German forces rimming the beachhead had suffered too heavily in their all-out offensive ever to repeat it in any thing like the strength they had employed from February 16th to 19th.

Reports from prisoners of war of German casualties in the action included stories that the dead were being buried in common graves by bulldozers. Whether or not such information could be relied upon, it was obvious that the German drive had been too costly. Kesselring could expect no more troops from the north to drive into the sea a beachhead that the Allies were determined to keep.

The attitude of the beachhead commanders turned from defensive planning to the possibility of attacking, and for the next three months the division underwent extensive training in tank-infantry attack problems. Plans "Buffalo," "Grasshopper," and "Turtle" came into being.

EDITOR'S NOTE: *Another article by Lt. Gottschall, which will appear in the November-December* CAVALRY JOURNAL, *will discuss the employment of tanks in "a well planned attack over good tank country" during the break-through and pursuit past Rome to Viterbo and Canino.*

Varn



M-10 tank destroyers, of a tank destroyer, battalion, dig into fixed positions for battery fire on Littoria, Italy.

Signal Corps photo

ON a summer day in 1942, a student-officer at the Command and General Staff School looked ruefully at the "U" neatly stamped on his solution to a map problem, and remarked, "The moral to this story, gentlemen, seems to be, 'never commit your tank destroyer battalion before three o'clock in the afternoon, and never, never split it up.' "

The student had drawn a false inference. He had overlooked the conditions of the problem, and had forgotten that tactics depend upon the situation. The Fifth Army in Italy has encountered a number of situations which required a departure from established doctrines, and this has been particularly true of tank destroyers.

The now historic Fifth Army Anzio beachhead was a small segment of the world's battle fronts, but during the months that it threatened the German flank, it was the scene of some of the hardest fighting in the Italian campaign.

The enemy used massed infantry and armor in attempts to eliminate the beachhead forces. At first glance, it would appear that this was a situation in which all tank destroyer battalions would remain in mobile reserve, ready to repel an armored attack.

If the Fifth Army had been less strong in artillery, such employment might have been necessary. With a preponderance of artillery, however, and the ability of every battery to fire on any point of the heachhead's short perimeter, it was not considered advisable to tie up useful supporting weapons as reserves.

Beachhead Support

Tank destroyer battalions are definitely useful supporting weapons. In the Anzio operation, the achievements of the X Tank Destroyer Battalion illustrated how valuable this support can be.

The battalion was attached to a British unit which was in position near Carroceto. The sector also included the factory area, a few acres of buildings in Carroceto which were of vital importance to the Fifth Army in defending an approach to the beachhead.

Company B, of this Tank Destroyer Battalion, serving with forward British infantry of a guards brigade, had been divided into platoons. Each platoon was so stationed as to render close supporting fires to the adjacent infantry. The M-10s, some from positions of hull defilade, others from protective buildings, covered likely routes of both armored and infantry approach.

On the night of 9 February, after a terrific artillery

rations in TD Tactics

—Some Lessons Learned in Italy

by Major James S. Metcalfe, F.A.*

preparation, the Germans sent infantry charging toward the British positions. A break-through at Carroceto would have enabled the enemy to smash into the beachhead proper and divide that small area into two parts.

The M-10s of Company B helped bear the brunt of the attack. Their three-inch guns and caliber .50 machine guns gave the British infantry that extra firepower which enabled the lines to hold. At the peak of the German onslaught, the M-10s fired at exposed infantry, and never displaced to the rear. Later, the grateful British spoke feelingly of the morale effect the presence of these armored vehicles had upon their troops.

This, and subsequent action, earned a unit citation for Company B, which read, in part:

> "In affecting close support, Company B occupied positions in the very front of the lines, although normal procedure would have placed them farther to the rear in readiness to stem any armored thrust that developed. The vehicles of Company B operated as tanks, as mobile pillboxes, as assault artillery, as infantry, as artillery, as antitank guns, and as reconnaissance. This unorthodox employment enabled the company to participate in a series of engagements at close quarters with the enemy. . . ."

The ability of the tank destroyers and their crews to remain in dangerously advanced positions, and to deliver devastating fire throughout an attack, permitted the hard-pressed infantry to withdraw, reorganize, and occupy a secondary defensive line.

Employment During Enemy Attack

There were other occasions at Anzio when companies of the X Tank Destroyer Battalion saw similar types of action in the rôle of direct support weapons for foot troops.

During a violent German infantry attack, two M-10s of Company C held back the enemy for two hours. Although exposed to hostile small-arms and mortar fire, the machine gunners fired their caliber .50s with such good effect that the Germans were unable to close with the British infantry.

This same company, continuing to operate from forward positions, was credited with destroying four Mark IV tanks and one towed antitank gun, and it inflicted many casualties on enemy infantry during another counterattack. A Mark VI (Tiger) tank and a personnel carrier were subsequently destroyed by Company C in this sector, and in following operations an antitank gun was demolished.

Beachhead Assault

One of the more dramatic performances by this company was rendered during its attachment to the British. A German attack pushed the Fifth Army line back a short distance, and several British were captured. Hastily organizing a counterattack, the British piled troops on the M-10s, and like a horse cavalry charge of old, the vehicles dashed into the German lines.

Once behind the enemy's advanced elements, the British dismounted from the M-10s and fought on foot. Meanwhile, the tank destroyers had a field day—overrunning hostile positions and firing at German infantry with every weapon on the vehicle and carried by its crew.

The raid effected the release of the British captured in the German attack. So complete was the surprise, and so demoralized was the enemy by the swiftness and boldness of the operation that the British and Americans bagged seventy prisoners. Many more could have been taken, but there wasn't room to transport them through the enemy lines on the already heavily laden M-10s.

Possessed of a high muzzle velocity, flat trajectory, and capable of great destruction when using armor-piercing, base-detonating ammunition, the three-inch gun of the M-10 is an ideal assault gun. It is made even more so by the mobility of its mount.

There was an occasion at Anzio when the British planned to attack over a relatively level stretch of terrain which was studded with many small houses. The Germans had converted a number of these solidly built stone structures into strong points and observation posts.

Prior to the attack, a platoon of tank destroyers was asked to eliminate these vantage points. One after another, the buildings were taken under direct fire, and were reduced to rubble. The infantry took its objective with a minimum of casualties, and the success of the attack was, in large measure, attributed to the preparatory shooting by the M-10s.

Company and Platoon

The X Tank Destroyer Battalion saw much action at Anzio, and most of it was by company or platoon. Its

*With the Fifth Army, Italy.

weapons were used in every type of mission, even as field artillery, and they acquitted themselves well in every one of their assignments.

The diversion of a tank destroyer unit from its primary rôle might not generally be regarded as sound practice, but at Anzio, the M-10s did a lot of useful work, and they were still on hand when the time came to knock out enemy armor.

In the breakout of Anzio, when the Fifth Army ripped the German lines asunder, the X Tank Destroyer Battalion chalked up the following total for two weeks of action: five tanks, three self-propelled guns, seven field pieces, two vehicles, forty-nine machine guns.

Modifications

The M-10s were slightly modified for their stay in the front lines at the beachhead. Armor plate was welded over the radiators to protect them from mortar and shell fragments. Until this was done, a number of vehicles were temporarily put out of action by perforated radiators. The bogey wheels were also vulnerable to near misses. This situation was corrected by the liberal use of sandbags.

The resemblance between an M-10 and a tank injected the hazard of mistaken identity, particularly when operating with other than American troops. At Anzio, the turrets of the battalion's vehicles were painted and the supported units were informed of this distinctive marking.

The Road North—"Cat and Mouse" Tactics

Following the German retreat north of Rome, the battalion operated in rugged, mountainous terrain, vastly different from the sweeping flatness of the Anzio beachhead.

Once again, the situation dictated a new type of employment for M-10s, namely, close support and assault gun missions.

The countryside in this section of Italy may be dear to the heart of a poet, but it is something less than that to a tank destroyer man. Here, mountains and hills are a patternless jumble, cut through by dirt roads which are only a series of tortuous bends. The only straight stretches are those necessary for bridge-crossings, and the routed Germans left none of those intact.

Vehicles, in such country, are thoroughly canalized. Enemy armor, although not constituting a threat from the standpoint of mass attack, played an annoying part as mobile, roving guns. Even more troublesome, however, were the German self-propelled guns which found the terrain well suited for harassing, hit-and-run tactics.

There was nothing to be gained in such terrain by keeping a tank destroyer battalion in reserve, or even by keeping it together. Consequently, the battalion was again divided.

Each company received a pioneer section and a platoon from the reconnaissance company.

The companies were usually committed by platoon, or section, and, acting in close support of foot soldiers, were most often used against targets of opportunity.

It was something of a "cat-and-mouse" affair, with the M-10s stalking their prey. Thus, when a German self-propelled gun was located, or a similar target picked out, the M-10s would maneuver into position and open fire. Pioneer sections often had to make this possible by putting in by-passes around demolished bridges, or by hasty mine removal.

Subordinate units performed a variety of missions. Every type of target likely to be encountered on an infantry front was taken under fire.

The infantry, as had the British, expressed pleasure at the stimulating morale effect the presence of tank destroyers had on the forward troops. The Germans frequently counterattacked viciously after being forced to yield an objective. The sight of M-10s at the front, covering the reorganization of the infantry, or helping to repulse the enemy's counterthrusts, was a psychological factor as well as a physical one.

The battalion commander discouraged the return of M-10s from the front for refueling or routine servicing. Whenever possible, fuel and ammunition were brought forward—eliminating the wear and tear of a two-way trek on the M-10s. The unit's half-tracks performed this transport function in a most satisfactory manner.

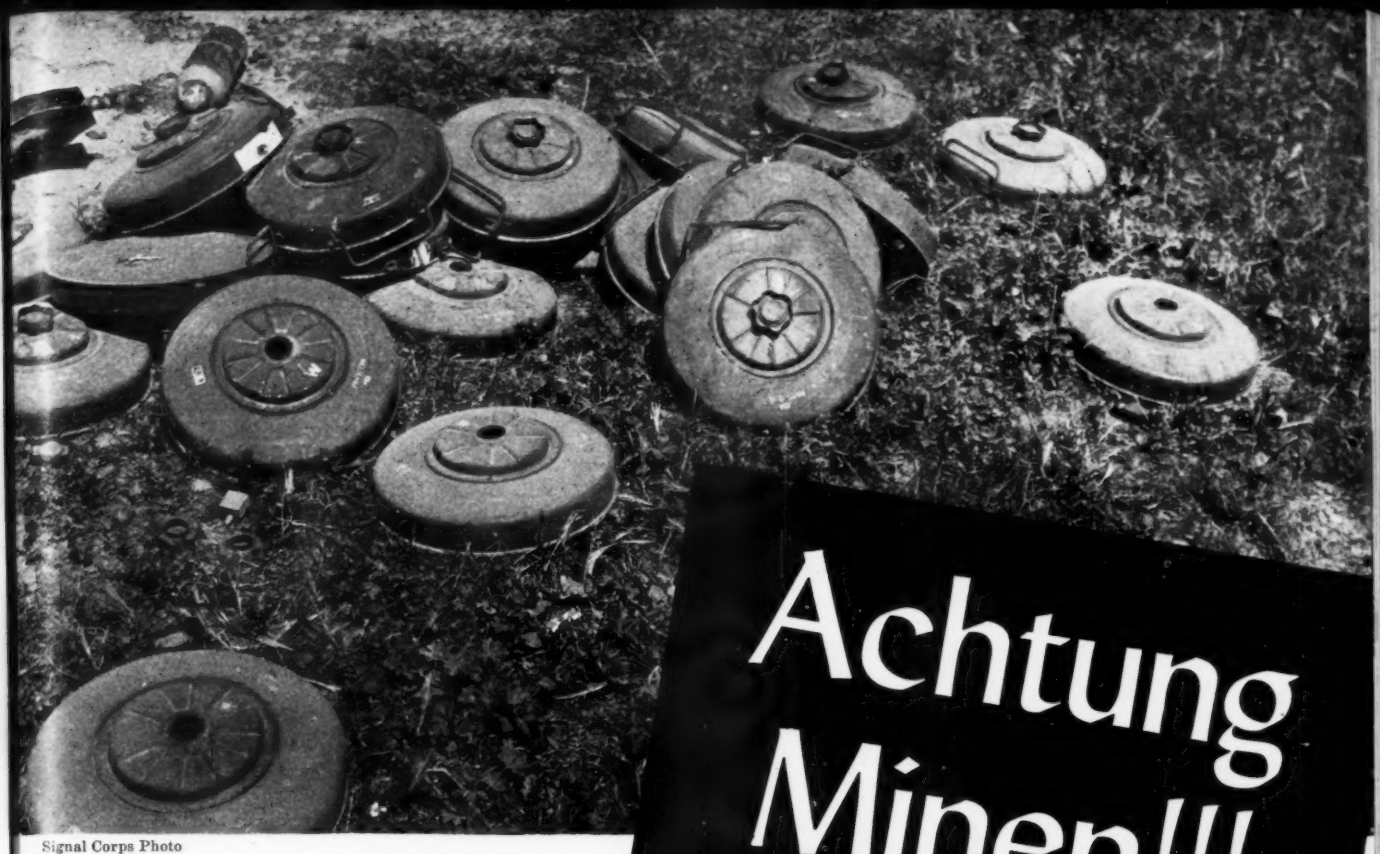
Operations as Field Artillery

M-10s proved their worth in a field artillery rôle during the Italian campaign. In an operation near Mignano, the X Tank Destroyer Battalion functioned in this capacity. It was tied into a Fifth Army artillery brigade by registration. From then on, the battalion did some fancy shooting. The battalion 12-drop switchboard, and company 6-drop boards, were connected with the brigade fire control lines. Accurate maps of the area served as firing charts. The fire power of the brigade was augmented by the equivalent of three field artillery battalions.

The maximum normal range of the tank destroyer's three-inch gun has been extended, on occasion, by elevating the front of the vehicle, thus permitting an increased elevation of the tube.

Long range shooting against tanks was not recommended by the battalion, but there were times when it had to be done. There was one instance in which enemy tanks were shooting into Fifth Army infantry, and because of demolitions, the M-10s were unable to approach the battle closer than about 3,000 yards. Even at that distance, a German Mark VI tank was hit and destroyed, but the M-10 gunner admitted that providence must have guided the shot.

Despite the versatility of the M-10s, infantry commanders should not expect them to function as tanks. To be sure, the X Tank Destroyer Battalion has done so, and it was successful each time, but only because, as the battalion commander said, "We didn't run into anything."



Signal Corps Photo

Pile of No. 3 Teller mines. The igniter holes for booby trapping may be seen in the side and bottom of some of the mines. Carrying approximately 11 pounds of TNT, the Teller mine packs a real wallop.

Achtung Minen!!!

by Lieutenant Colonel Stanley W. Dziuban, C.E.*

ACHTUNG MINEN!!! In combat areas in Europe, you will occasionally find that in haste, Jerry has left his calling card. You will mentally thank his forgetfulness, carefully bypass the marked area, and go safely on your way.

More often leading troop elements will discover the presence of the insidious mine by detonating one and suffering personnel and matériel losses. Striking without the warning of the whistle of the bomb and shell or the chatter of the machine gun, the mine is doubly effective because when detonated, it represents a direct hit. The passage of the battle does not eliminate their danger, for they can remain behind to strike at following corps or army troops.

Unless troops overseas are fully prepared to cope with the problem it will be found that enemy mines can become not only a serious source of casualties but also a serious morale factor. No attempt will be made here to detail types of mines and ways of treating with them. No better guide than FM-31, *Land Mines and Booby Traps,* which thoroughly covers the subject, could be used as a basis for troop training in mine warfare.

★Commander of a Combat Engineer Battalion in North Africa, Sicily and Italy—January, '43-April, '44.

ALL troops entering the combat zone should have a thorough basic training in mine warfare. Mechanized cavalry and other reconnaissance units must be trained fully in mine location and clearing and in mine field laying.

There are here presented some particular considerations which need underlining, or which will not be found in manuals. These observations do not represent a comprehensive study of practice throughout Europe, but an accumulation of personal experience, observation, discussion, and study of German mine warfare in North Africa, Sicily, and Italy. The detailed techniques of German mine warfare may vary from place to place, but much of what follows can be of value to troops fighting the Germans anywhere.

ON GUARD

Every soldier in the combat zone in Europe should maintain an *awareness* 24 hours a day of the possibility of mines. Once he is on guard against the possibility, he has the problem more than half licked, for it is not

Signal Corps Photo

Teller mine No. 1, with a highly machined fuse, has been largely replaced in turn by Nos. 2, 3, and 4, which use a very easily made fuse. This mine shows the center fuse with the arming pin in the armed position, and with a pull igniter (fired by a 10-15 pound pull) for booby trapping in one of two igniter holes. Foot rule denotes size.

difficult to locate and avoid mines. Again, the soldier should be kept always on his guard for antitank and antipersonnel mines, even in rear areas. The soldier who is on his toes will not step over a plainly marked barbed wire fence and trip a trip wire as has often been done. It is the careless soldier who becomes the casualty.

Types of German Mine Warfare

The German employs two general types of mine warfare.

The first is the use of deliberate, formal belts or fields of antitank and occasionally antipersonnel mines in front of well organized defensive positions, such as the beaches in Sicily and Italy, or as a few fields laid in Tunisia and Italy.

The other general type is the scattered, hastily sowed mines, without pattern or scheme other than to cause casualties. The numbers of these mines will depend on the time the enemy had available to lay them. The locations will be places most likely to be traversed by the advancing troops. It is this type of mine warfare which has cost so dearly.

As the German falls back, he buries his mines in potholes in road surfaces, in the shoulders, in turnout points, particularly at intersections, in bivouac areas (especially when desirable areas are scarce), in and around demolitions such as craters, blown bridges or culverts, along paths likely to be followed by troops such as those leading to wells, in natural avenues of approach such as draws or wooded areas, in defiles, on airfields, and in desirable artillery position areas. No pattern, rhyme, scheme, or density can be expected.

Mine Location and Treatment

Suspect the presence of mines in any of the places mentioned above. The great bulk of mines can be found easily, even visually by someone looking for them. The German may carelessly discard empty mine boxes. These are a dead give away. Trip wires, holes in the road, disturbed earth, barbed-wire fences, earth depressions caused by settling of disturbed earth after rain—all of these are cause for suspicion of mines.

Piles of stones, or other strange objects or markings on the road or building may be signs left by the German engineers to warn his own rear guard people of the presence of mines. Not infrequently Jerry has in haste or forgetfully left in place signs which served to warn his own troops, ACHTUNG MINEN, MINEN, or ACHTUNG.

To clear large areas of mines, the electrical mine detector, properly adjusted and tested is best. Particularly because of mines like the nonmetallic antitank *Holzmine* or antipersonnel *Schumine*, which contain a minimum of metal, the detector must be adjusted and tested minutely. It must be used carefully to give effective, 100% coverage of the ground, and less reliance must be placed on location by change in tone of the resonator and more on observation of the visual indicator needle.

In using the bayonet or probe of any kind, the minimum amount of force should be used to prevent detonating antipersonnel or sensitized antitank mines. The probability of detonating sensitive mines like the *Schumine* in probing can be reduced by using the probe at angles greater than 45° from the vertical rather than near the vertical.

If it is necessary for an individual to cross an area not under assault conditions, but known to be mined, this can be done quite easily by advancing slowly, checking the small areas into which each foot will be planted by lightly passing the fingertips over the ground to detect the mine, igniter, or disturbed earth, at the same time looking for trip wires. If possible walk on pavement, on rocks or rocky ground moving from boulder to boulder, on walls, or on any other ground or objects in which mines could not be placed. Do not blaze new trails, but if possible habitually follow paths or trails that have been well used by other troops.

A soldier of an engineer battalion removes the detonator of a Teller mine No. 4 (Mushroom type) that was found on the beach at Nettuno, Italy. This mine is normally antitank, requiring approximately 350-pound pressure, but is readily booby trapped and may become sensitized by the blast effect of near-by explosions of other mines, shells, etc.

Signal Corps Photo

If it becomes necessary to clear or disarm mines, this should be done by competent personnel. As a general rule, whenever possible, mines should be pulled from place by a 50 yard rope rather than endangering personnel by disarming and lifting the mines. Antitank mines which have been subject to blast from bombing or shelling may be sensitized so that pressures which detonate antipersonnal mines may also detonate them.

Friendly Mine Fields

Experience with friendly mine fields, as at Anzio, has not been completely satisfactory. Mines would no doubt be used in any retrograde movement, but there is not full agreement among field commanders concerning their use in static defensive situations such as at Anzio. Unless carefully planned and coördinated, such mine fields may complicate the taking of the offensive. Casualties can be frequent among patrols and other personnel who must move through these mine fields. Careless personnel, lack of information as to mine locations because of the data failing to get to lower echelons or because of frequent changes of the unit holding a sector containing mines, warning barbed-wire fences cut by shell fire—causes such as these can result in numerous casualties.

If the decision has been made to lay mine fields, they must be accurately recorded and the information promptly disseminated to all who need it, particularly the individual soldiers in those sectors. In laying the mine fields, competent personnel should be used and frequently checks made to see that the proper tests, particularly of American igniters, are made to avoid accidents while laying mines.

Indiscriminate placing of unrecorded mines or booby traps by individuals cannot be permitted. Barbed wire marking fences should be stout, and should be at sufficient distance so that exploding mines do not cut the wire. Parties should check the repair of the fences regularly. All personnel should know the standard mine field markers used by friendly troops as well as those used by the Germans in any sector.

Signal Corps Photo

Men of an engineer unit sweep the streets of Lessay, France, in a hunt for mines. Well-organized parties and careful laying out of lanes insure thorough, complete clearing of an area. To prevent unnecessary casualties, clearing parties should be kept as small and as dispersed as possible. Group pictured above is too congested.

General Comments

It is my belief that the factor which will most reduce mine casualties among trained American soldiers is *to ingrain thoroughly in him a constant awareness of the possibility of mines and to keep him always on guard for them, even in rear areas.*

Treat with care the areas near barbed-wire or other fences.

Sandbags on the floors of vehicles will reduce casualties. Men should not be permitted to ride on truck fenders or running boards. Serious casualties have occurred from these practices.

When in or near mine fields, men should be kept dispersed. If an S-mine, or "bouncing Betty," should be set off, the individual will usually be aware of it by hearing a pop! He can then probably escape injury by taking the prone position in the few seconds before it explodes, at the same time warning those in the vicinity by calling "S-mine." The fragments are distributed mainly horizontally.

When a man is injured in a mine field, others should be restrained from their first tendency to rush to his aid. One or two men going to the injured man's aid should take steps to avoid detonating other mines.

If livestock is loose in the vicinity of mine fields, they should be avoided, for fragments from some types of mines detonated by the livestock can travel with casualty-producing effect up to 100 yards.

Dangerous weapon though it may be, the mine, like other weapons, can be made relatively ineffective by the proper countermeasures. One of the best countermeasures is properly trained and indoctrinated, alert personnel.

FROM JEEPS TO P

TERRAIN and weather still dominate battlefields, and *arms must be balanced for the terrain in which* battles are fought.

Topography plays a leading part in successful battle plans. The two extremes of topography in this global war were the sandy North African desert and the fantastically jumbled mountain and jungle terrain of Burma. The North African desert was ideal terrain for armored units. Burma is typical terrain for animal units.

General Marshall sumarizes the clues to success in his all-inclusive statement to me of April 6, 1944. Said he, "The essential clue to success in modern warfare is a balanced force of *all arms*, with the necessary teamwork between its component elements, plus a strong leader who has a sound knowledge of the mechanism of war; that is, fire power, movement and the logistics of supply."

"Burma was lost," said General Sir Harold Alexander (Allied commander in Italy), "because mechanization was sent where animal transport should have been used. The last thing you want in Burma is a mechanized army. There were only two main roads in all of Burma on which a mechanized army could be used. The Japanese used coolies for transport."

Up the Trail to the Peaks

After the last war it was predicted that the next war would start in the air, but, like all wars, would end in the mud. How true this has proven!

Trucks and jeeps wind up and around the mountain roads with death-dealing cargoes of copper-ringed shells and life-sustaining food. The trucks stop at lower levels, the jeeps continue to climb, chugging hopefully to make the grade, and then—a quiver or two, and the engines come to a stop. This is the "mule-head." The jeeps have reached the end of their trail. The packers take over; cargoes are sorted for gun and for man; loads balanced and quickly rope-hitched for the steeper climb up and "beyond the jeep trail."

It has rained for weeks. The mule climb begins. Whipped into action by the packers, with every ounce of brawn at work, the mules streak out in column, slipping as they grope for steady footing, until the trail becomes too steep even for mules. Mountain-climbing foot soldiers, with pack boards strapped to their backs take the load each man can carry and claw, clamber, and even hew their way to the fighters manning the peaks.

We enthuse over the thought that a plane can fly over mountain and jungle in one-half hour that would require fourteen days by mule pack. This is as it should be, especially for transport planes, but cross-country terrain over which they fly is not battlefield terrain.

In the same half-hour, pack artillery has rounded the roadless mountain and banged its shells on the target. Later, pack trains with sure-footed mules are "silently" but quickly wending their way in the blackness of the night across bomb-crater fields to succor the fighting foot soldiers who have reached the ramparts across the valley; to replenish munitions and medical dressings and sulfas and plasma for the men who hold the vital height.

Communications must be established and quickly—wire must be laid. Signal reel packs go out. The mules, hustling along by the most direct route through thicket and woods, string wire as they go. Engineer mules, with loads for demolition, amble past bulldozers readying for the "action roads" of the battlefield—the vital roads for wheel supply.

Animals in War

Much has been written about the modern machines of war—and rightly so, but man has not yet made the machine that can replace the foot soldier or the pack mule. And with equal force it may be added, the pack artilleryman and the American cavalryman. The foot soldier, the pack mule, the pack artilleryman and the American horse cavalryman with his machine guns and mortars in pack, are the trail blazers who work their way through the inaccessible places and come out with unbeatable combat teams—task forces supreme.

Germany boasts today of the feats of heroism in the present war of her mountain troops in the Polish battle of Lemberg, and in the far north at Narvik, Norway,

A British Eighth Army patrol unloads pack mules in Castel St. Vincenzo. The mules are extremely small.

PACKS

by
Colonel
Albert E. Phillips
(Cavalry), Retired

Italian "donkeys" carry mortars and ammunition over a rocky ridge near Venafro during a training problem.

Pack troop of the 45th Division unloads 81mm mortar shells near Venafro, Italy. The Italian mule is poor, weak.

to which point pack artillery was transported by plane to successfully clinch the decision. Hitler pronounced this feat a "military miracle." But this was no miracle. Italian mechanization failed in winter warfare in the mountains of Greece, but Greek pack artillery plowed through the snow, and thus caused Mussolini to yell for Hitler.

When the going got tough in Tunisia; when food, ammunition, and water were needed by troops in positions where trucks could not reach them; when fog enshrouded planes and jeeps spun in the mud; when stalled tanks needed gasoline, oil and spare parts, over routes that wheeled vehicles could not travel, pack animals were brought into action. A War Department release stated: "The terrain in parts of Tunisia was so rugged, so wild, that even jeeps could not navigate the hills."

The truth is, we know a lot about machines and good highways, but not enough about mountains, narrow passes, absence of roads and marshy ground that block and stop tanks. Rain, swollen rivers, zero cold, snow, flood, and mud retard and stop motorized vehicles. Mud alone plays havoc with machines. Some years ago there was a sign on a country road in Canada, which warned: "Select your rut well because you will be in it for the next forty miles."

Sicily

Sicily was the great testing ground. The fastest moving campaign was in Sicily. The record there must stand for all time. The Seventh Army under Lt. General George S. Patton was one of the world's most modern motorized fighting machines, and it was inconceivable at the time that a motorized army would have need for mules. It was a whirlwind campaign that rolled triumphantly along until battle was joined in rugged terrain. And then the call for the sons of the wild jackass—the mule! Packs for 155 ammunition and for food, where even jeeps could not travel! Packs for 75 howitzers, and packs for engineer, signal and medical units!

The great war machine that had moved so rapidly; that had cut Sicily into parts, came to a halt at Randazzo, temporarily stymied by a staggered series of natural barriers of rugged mountains, precipitous ridges, gutted hills and many rivers. The time had come for battle. The Germans were fighting a "retirement" action, and they were fighting stubbornly as is the wont in defense. Because of the steepness of the heights, many armored vehicles had to be left at the base of roads. Many motorized guns could not be emplaced at sites desired.

Reports may differ of the fighting in this sector or that sector, but for the tough, central sector, the Associated Press report of August 10, 1943 said: "American forces fighting toward Randazzo, northwest of Mt.

Etna, smashed the center of the German line, in mule pack, mountain warfare."

Major General Lucien K. Truscott, of the cavalry, who commanded the famed 3d Infantry Division of the Seventh Army, lost no time in hastily organizing improvised pack artillery, pack supply units, and reconnaissance cavalry for his division. Said he: "I am firmly convinced that if one squadron of horse cavalry and one pack troop of 200 mules had been available to me at San Stefano on August 1st, they would have enabled me to cut off and capture the *entire* German force opposing me along the north coast road and would have permitted my entry in Messina at least 48 hours earlier."

Major General M. S. Eddy, of the infantry, who commanded the now famous 9th Infantry Division of the Seventh Army, said: "Infantry can advance only so far without receiving its daily supplies of water, ammunition and food. Because practically all the bridges had been blown, motor vehicles could not be used until Engineers had constructed long and difficult by-passes, pack mules had to be employed. A conglomeration of pack equipment was finally collected that was neither adequate nor efficient. A stock of American pack equipment, including special pack saddles for the six loads of 75mm howitzers and for the heavy weapons of the infantry should be provided."

The campaign in Sicily must remain as a classic example of the need for both motors and animals. We would not want to change that record, even if we could. It is the "aggregate" value of motors and animals that counts.

Italy

The campaign in the North African desert was a gasoline race with no place for the "hay-burning" mule. Said Rommel's Quartermaster when captured by General Bernard Montgomery of the British Eighth Army: "The war in the desert was a tactician's paradise but a hell for quartermasters."

The war in the mountains of Italy was destined to be a hell for all. It could not be a war of armored vehicles running hither and yon. It was a topsy-turvy paradise, toppled over by the wrath of the gods and man—hell on earth of fire and fury, flood and mud—a restricted terrain of high mountains and steep-banked, often flooded rivers heading for the sea across the line of advance—a purgatory for tacticians, with the logistics of supply literally knocked sky high. The mountains of Italy were natural animal terrain. Animals move faster in difficult terrain; they move with less noise, leave the roads when necessary, disperse quickly and are particularly valuable for night movements. Horses, mules and foot soldiers provide the means for penetrating wooded areas and mountain fastnesses.

A division commander said, "We had superiority in air power and in fire power, with the exception of pack artillery, but we had 'blind spots.' We lacked definite, detailed information of the ground; we lacked the 'war tool of cavalry.' "

An outstanding general of artillery said, "The Apennines of Italy just shout for pack artillery." And another said, "You'll take a load off my mind, if you'll put those jeep loads on mules when we land in Italy." The need for mules reached its climax in Italy.

Estimates of division commanders ran from three hundred to five hundred pack mules for each infantry division. But these estimates were probably based on the poor and weak little Italian mules.

When, after months of stagnation, the break-through was finally made at Cassino *Life* magazine reported, "The French, with less mechanized equipment, moved up faster than we did." The tactical move through Castelfort, made by the French, threatened envelopment of Cassino. The actual taking of Cassino was by British and Polish troops. The French were liberally supplied with pack transportation.

In wars of movement in mountains, jungles, and mud, the army can no more successfully fight its battles without packs than without doughboys. The pack mule can go wherever a man can go without the use of his hands. In his realm, the pack mule is supreme, for no wheeled vehicle can follow him.

Quartermaster to Buy 2,000 Mules for Supply Transport in Mountainous Areas

August 14, 1944.—The Quartermaster Corps is purchasing approximately 2,000 mules for the use of the armed forces.

The mules, of the type most suitable for use as pack animals, are of somewhat smaller stature than those required for draft purposes. They usually weigh from 1,000 to 1,150 pounds, and are capable of carrying loads weighing from 200 to 250 pounds.

They will be procured mainly through the Remount Areas Headquarters at Lexington, Kentucky, and San Angelo, Texas, which serve Kentucky, Missouri, Indiana, Illinois, Iowa, Minnesota, Arkansas, Oklahoma, Texas and other chief mule-producing states.

Far from being outmoded by mobile warfare, the mule is proving more valuable than ever to the Army for supply transportation over rough terrain such as has been encountered in Sicily, Italy and Burma.

In addition to his sure-footedness on mountain trails, the mule is seldom disturbed by the noises of battle when working under combat conditions. Once his reluctance to boarding an air transport or landing craft is overcome, he usually stands quietly and gives little trouble while being transported.

—*War Department, Press Branch.*

General Hawkins' Notes

Would Cavalry Have Been Useful in the War in Western Europe?

SO FAR, the present campaign in Western Europe can be divided into four phases.

First: The landing on the beaches

Obviously, only dismounted cavalry could have been useful there.

Second: The operations in Normandy after the beachheads had been cleared and before the breakthrough at Avranches and St. Lo.

Certainly cavalry in small numbers could have been useful in the hedgerow country on the Cherbourg Peninsula. The operations ending in the capture of Cherbourg could have been faster. But the task of supply was still difficult, and large forces of cavalry concentrated behind the lines with the beaches at their backs would have been subjected to harassing artillery fire, to say the least.

Third: The breakthrough and subsequent operations up to the liberation of Paris.

After the capture of Cherbourg, cavalry in large numbers could have been landed by improvised means at Cherbourg or even on the beaches. When not under hostile fire, cavalry horses have been landed on beaches before this, and without the wonderful apparatus now available. Horses can be lowered into barges, run ashore and dumped out much as soldiers were.

Let us suppose that a cavalry corps had been landed about a week before July 25th when the big Allied offensive began. That would have been about 6 weeks after the first beachhead landing on the coast of Normandy. It could have been kept in readiness behind the lines without molestation or harassment of any kind.

When the breakthrough occurred and armored forces dashed forward on beautiful highways with scarcely any opposition from the enemy, the cavalry could have followed on various highways and byways, moving across country and off those highways that were needed for the supply trains following the armored divisions.

So long as there was comparatively little organized opposition, the advancing armored units did not need the close support of cavalry or other troops. Had the enemy been able to offer serious resistance with artillery and various antitank weapons, the pace would have been considerably slowed. The cavalry would have overtaken the far-flung armor, and, as has often happened on the Russian front, tank-cavalry teams, moving across country could have speedily outflanked the resistance.

Of course, there was no such check. The German army in France has displayed a surprising and totally unexpected lack of leadership. Some day the whole story may be told. At present it can only be surmised.

It may be noticed that in northern France all roads lead to Paris, so to speak. Paris is like the hub of a wheel lying flat on the ground with spokes of the wheel leading out horizontally in all directions.

Using the vicinity of Caen as a pivot, the Germans swung their army northward. Obviously, the greater part of the German armor and antitank troops had been massed near Caen in front of the British and Canadians. These antitank measures had repulsed the heavy British armored attacks. The Germans counterattacked with their own armor and it was repulsed by British antitank weapons. When antitank weapons were available on either side the opposing armored attack was stopped. This fact was manifested again on August 7th when the Germans massed four armored divisions to attack the American First Army from Mortain, not far from Avranches. The Germans hoped to split the Allied line in two by using this attack. But it was stopped by antitank guns, artillery, and a unit of the RAF, using the new rocket bombs. Many German tanks on the highways, were caught and destroyed.

Meanwhile, U. S. armored units, pushing toward Paris, met no such opposition, either from antitank weapons or from the Luftwaffe. Therefore, they proceeded with great rapidity. When it became important for Patton's armored units, west of Paris, to turn north in order to enclose the German Seventh Army, partially trapped by the British, Canadians and some American troops moving slowly against bitter opposition near the town of Falaise, the armored forces then had to move across the main highways instead of on them. A great chance to destroy nearly the whole of the German Seventh Army seemed to present itself. But, moving against antitank opposition and across country, the tanks were slowed down.

An American cavalry corps armed with carbines, tommy guns, grenades, pistols, machine guns, antitank weapons, mobile light artillery and light tanks, would have been able to have interposed itself behind the fleeing enemy and stopped them completely, as has been demonstrated many times by the Russians. The cavalry would have been joined soon afterwards by armored units and the German Seventh Army would have been bottled as completely as the Sixth Army was at Stalingrad. Although the Seventh Army was eventually crushed, important elements of it did escape.

Fourth: The advance of the Allied armies north and east of Paris.

Allied elements have now crossed the border and moved into Germany at a number of places.

In this speedy advance, a cavalry corps at times would have been a little behind, but not so much as to have

been unable to coöperate soon after serious resistance might have been encountered. The cavalry corps could easily have moved 300 miles in 15 days. This would have carried it from the Seine River to Brussels or to Metz and beyond. The cavalry would certainly have been available when the need for it came.

Conclusion:

If the enemy offers no further serious resistance with adequate artillery and antitank units, there may be no important use for cavalry. If he does offer this resistance, however, then the usefulness of large cavalry forces—if we had them there—could be demonstrated.

The exploits of the famous Russian tank-cavalry teams in 1943, and the present campaign in Poland and Romania, cannot be discounted. The Russians certainly moved fast enough to suit anyone. Their cavalry had no trouble keeping up with their tanks—and this on ground particularly adopted to tank warfare. The country of western Europe is especially favorable for cavalry. Its hills, rolling country, woods, rivers and creeks combine with its open meadows and farm lands to make a country in which cavalry is very desirable.

Like Russian cavalry, U. S. cavalry, in combination with tanks, could spearhead every important turning movement, speed up advances by rapid reconnaissance, guard the flanks of the infantry, which remains the great mobile basic arm, form links between armies, and, by-passing small fortified towns, move well out in front and operate around the flanks of enemy antitank units which might hold up the armor. In short, U. S. cavalry could operate both with and without tanks.

The rapid advances which have been made in France without the use of cavalry are liable to cause the American people to forget how cavalry could have been usefully employed in Tunisia and especially in Italy where the painfully slow advance was bitter and could have been much accelerated by the use of cavalry.

It is obvious that the Allies are winning the war. No one knows, however, how much time and how many lives might have been saved had there been a proper balance of all arms in the American and British armies as there is in the Russian. Germany is not yet conquered. The war with Japan has barely begun. How many places still lie ahead of our armies where cavalry would not only be useful but necessary? Will the Nazis go underground? Does anyone know in what remote region or rugged terrain it eventually may be necessary to fight the last of the Axis culprits? Will cavalry not be sorely needed in the Philippines? In Burma? China?

—By Rodd, *Sunday Dispatch* (London), July 16, 1944.

"Old-fashioned stuff—we used horses years ago!"

Report On Operations In Northern France

June 6—August 25

GENERAL Dwight D. Eisenhower, Supreme Commander, Allied Expeditionary Forces, has made the following report on the results of operations in Northern France between D Day, June 6, 1944, and August 25, 1944:

The equivalent of five Panzer divisions have been destroyed and a further six severely mauled, including one Panzer Grenadier division. The equivalent of 20 infantry divisions have been eliminated and a further 12 very badly cut up and have suffered severe losses. Included in this total of infantry divisions are three of the enemy's crack parachute divisions. In addition, one parachute division and two infantry divisions have no hope of escape from the fortress ports of the Brittany Peninsula in which they are marooned. One infantry division is isolated in the channel islands.

Total enemy casualties amount to over 400,000 killed, wounded and prisoners of war, of which over 200,000 are prisoners of war. Of these prisoners, 135,000 have been captured since July 25. The total continues to mount.

One thousand three hundred enemy tanks and over 20,000 motor transports have been captured or destroyed. About 500 assault guns and 1,500 field and heavier artillery guns have been captured or destroyed. In addition, the enemy has suffered very heavy losses in coast artillery equipment.

The German Seventh Army and the newly formed Fifth Panzer Army have been decisively defeated and into this defeat have been drawn the bulk of the fighting strength of the First and Fifteenth Armies. Three field marshals and one army commander have either been dismissed or incapacitated by wounds. One army commander, three corps commanders, 15 divisional commanders and one fortress commander have been either killed or captured.

In the air, the Luftwaffe has taken a fearful beating. Since June 6, 2,378 German aircraft have been destroyed in the air and 1,167 on the ground. In addition, 270 aircraft were probably destroyed and 1,028 aircraft were damaged in the air.

At sea, the enemy has been unable, in spite of his former boasting, to interfere seriously with the invasion forces. Enemy attacks on convoys have been driven off on very many occasions and losses to Allied shipping have been small. Of the enemy's naval losses, some 300 vessels of all classes have been sunk or heavily damaged by Allied action. In addition, a number of enemy merchant ships have been sunk and the Germans themselves have been forced to scuttle, in their harbors, large numbers of all types of shipping, both naval and mercantile.

A large proportion of the enemy's effort has been devoted to attack by mine laying. The sustained work of minesweepers has resulted, within three months in a "Mine-Bag" off the French beaches which totals one-tenth of all mines swept in five years in all theaters of war.

Allied teamwork, extending through all services, has again demonstrated its ability to overcome the most adverse kind of conditions in defeating the enemy. Allied units from other countries have fought effectively alongside American and British forces and the FFI (French Fighting Forces of the Interior) have done much valuable work.

The Command System has functioned smoothly in spite of difficulties caused by enforced separation of commanders and of poor signal communications owing to distances and the rapidly changing situation.

Many factors are woven into the warp and woof of this great victory. Among these a few are listed below, with no attempt to give their order of importance.

One was meticulous care in planning and preparation, supported resolutely in all important aspects by the Combined Chiefs of Staff.

Another was the fact that we achieved some degree of surprise involving place, timing and strength of the attack. The excellence and sufficiency of amphibious equipment, with measures for dealing with beach defenses and obstacles, was also important.

The brilliant preparatory work of the Air Forces, a belief in the effectiveness of which was the very cornerstone of the original invasion conception, began months ago and reached its highest intensity at the very moment of landing. It is my conviction that except for this aerial preparation, including as a specific mission a prolonged campaign against the transportation systems of northwest Europe, the venture could not have logically been undertaken. The air support of ground forces has been most effective throughout the campaign. The supply and maintenance services have performed miracles.

But the greatest factor of all has been the fighting qualities of the soldiers, sailors and airmen of the United Nations. Their valor, stamina and devotion to duty have been beyond praise. They will continue to be.

Editorial Comment

Von Schlieffen In Reverse

When the German Baron Alfred von Schlieffen conceived his famous plan for the conquest of France, he little dreamed that it would be executed in reverse over practically the same terrain for which he drew his maps.

The "von Schlieffen plan," upon which the Kaiser based his strategy in 1914, called for a break-through at Sedan that would draw the French armies north of Paris. Then, using Sedan as a pivot or hinge, the German right wing was to swing in a wide arc through Holland, Belgium and sweep into France west and south of Paris.

Although von Schlieffen's dying exhortation was to "make the right wing strong," the Kaiser's armies avoided Holland and swung in a reduced arc through Belgium. Then, while the offensive momentum of the right wing petered out, the bulk of the German armies was drawn eastward and north of Paris. The Kaiser's army failed to reach the coast of France, and the French capitol was never encircled.

In 1940 Hitler's army avoided the mistakes of 1914. While breaking through the Maginot Line at Sedan, a strong right wing swung through Holland and Belgium, and after sweeping the Allied armies into the sea at Dunkerque, encircled the helpless French armies in the north, and on June 22—just 34 days after the invasion of the Lowlands—forced the surrender of France.

In 1944, the Allied armies under General Eisenhower, using Caen instead of Sedan as a pivot, applied approximately the same strategic plan over approximately the same terrain to liberate France, Belgium and Holland, encircle much of the German army, and drive the survivors beyond the borders of the Reich.

While the British drew the Nazi armor to the vicinity of Caen, a strong American right wing broke out of the Normandy Peninsula, drove south across Brittany, and advanced on a wide swinging arc to the east and north. It is doubtful if original plans called for the encirclement of Paris, but the maneuver developed so rapidly that the situation undoubtedly warranted an extension of the drive. On August 25—29 days after the break-through from St. Lo, the city of Paris was liberated and American, British, Canadian, French, Belgian, and Dutch troops were encircling and annihilating Nazis over the wide arc of von Schlieffen's map.

* * *

Hitler—the Mad Strategist

Much of Hitler's military bungling was originally overlooked in the spectacular results of his early campaigns. The corruption of governments, the unpreparedness of armies, the bewilderment of suddenly enslaved peoples—all contributed to obscuring the truth masked behind the self-expounded legend of his genius.

Hitler's gravest strategic errors are now evident. His failure to invade England in 1940, his gross miscalculation of Russia's military strength in 1941, his insistence on a suicidal stand at Stalingrad in 1942 at the expense of reënforcements for Rommel in North Africa —have all been discussed and generally recognized. In future appraisals of the war, it is likely that his biggest mistake, and at the same time, most fanatical decision was made in 1943 when he sacrificed the *Luftwaffe* and diverted critical materials, manpower and time to the making of the *Vergeltungewaffe* (Vengeance Weapon), officially termed the V-1 and now commonly known as the robot bomb or robomb.

The introduction of a weapon of war directed primarily against a civilian population is quite compatible with the diabolical mind that introduced and fostered concentration camps, modernized sound-proof torture chambers, extermination vans, and scientific murder factories. The "Vengeance Weapon" is fully in keeping with the fanatical character of modern history's ace madman.

In the use of the V-1 against English civilians, however, Hitler's preconceived ideas of public reaction were as much in error as they had so often been in the past. His objective appears to have been to demoralize the British home front to such an extent that the people would demand an end of the war and a negotiated peace—but the British outlasted the robots.

In August Brigadier General Horace S. Sewell wrote, "The German stand in Normandy appears to be directed by other than purely military considerations. It seems probable that Hitler is prepared to sacrifice his army in Normandy to gain time for the continuance of his aerial bombardment of London."

Later the British radio observed that Hitler's obsession for flying bombs had cost him 20 trained men for every person killed in England by the missiles, and had lost him France. The German Seventh Army in northern France was deprived of air protection; manpower and matériel were diverted for robot production, and great numbers of troops were held at launching areas when they might have been sent to aid the Seventh Army.

A captured German document, written by the commander of the 2d German Panzer Division for the enlightenment of a new commander taking over a sector of the Normandy front, contained the following statement: "The German air force is conspicuous by its absence. Only 6 German planes flew over our divisional area in 4 weeks."

In Stockholm an Austrian fugitive research worker

reported that between 250,000 and 500,000 persons were engaged in the manufacture of Germany's threatened V-2 rocket bomb, and claimed that many of the men working on the new rocket were former *Luftwaffe* members who have been grounded for lack of planes. Tens of thousands of German airmen have been switched to V-2 work, he said.

While Hitler's armies on every front struggled without air support, in England his robombs, taking a toll of less than one life per bomb landed, had little or no effect upon the Allied military situation. Many robombs were exploded before they reached British soil; others never reached the channel. The mayor of Rouen told a U.P. correspondent that at least three of every four robots launched in that area had been exploding on French soil. "Twenty-six landed on one 40-acre farm a few miles from the coast, and this is typical," he said.

It has been reported that there were over 2,000 launching bases in northern France—22 sites in Rouen alone, and an average of one every three miles between that city and Le Havre. Meanwhile, U. S. and British planes, in close support of Allied ground armies, have pounded the Nazi lines, demolished their communications, and seriously hampered the Nazi retreat.

General von Paulus, commander of the German Sixth Army at Stalingrad, broadcast from Moscow, "According to happenings lately, a continuation of the war for Germany has been transfererd into senseless bloodshed. The superiority of the enemy in the air and on the sea is so overwhelming that the situation for Germany has become hopelessly disastrous. For Germany the war is lost!"

Now that Hitler has "liquidated" many of his generals and taken direct command of the Battle of Germany, as he did the Battle of Stalingrad, the end of the war undoubtedly draws nearer. In the words of General Montgomery, "It means that the enemy is commanded by a lunatic."

✦ ✦ ✦

The Basic and Complimentary Elements of a Single "Armed Force"

Earth, water and air—three of the four basic elements —are the mediums in which all life, as we know it, has being and exists. They are also the three mediums in which warfare is waged. The fourth element, fire, transmitted into fire power, is the basic means of waging war.

Until man developed navigation there was only one element in which he lived and consequently fought. He lived upon the earth and his fighting, therefore, was a simple matter of land warfare, perhaps best exemplified by the campaigns of Ghenghis Khan.

As man gradually conquered the seas, he at the same time developed a fighting means of controlling the sea lanes—and naval warfare grew from the early battles between slave-manned gallions to engagements between massed fleets, such as the Battle of Jutland.

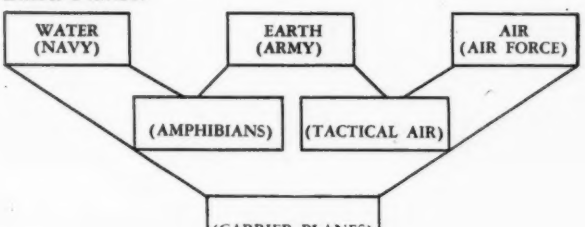
From these two elements of warfare, only one combination of elements was possible. With earth and water covering the surface of the earth and no medium of war overlapping or combining the two, man's life existed on a two-dimensional plane and the only possible contact between land and naval warfare was at the shore.

Ships were often used for transporting armies, and many examples exist of naval bombardments of coastal cities. A classic example of tactical coördination between land and sea forces is found in the Battle of Yorktown when Cornwallis, opposed by Washington on the south and west, suddenly found the French fleet steaming up the Chesapeake at his back.

The need, however, for a combat unit that combined the attributes of both land and sea forces had already introduced a new fighting body—the Marines, "soldiers of the sea," who became highly proficient in what has since become known as amphibious warfare.

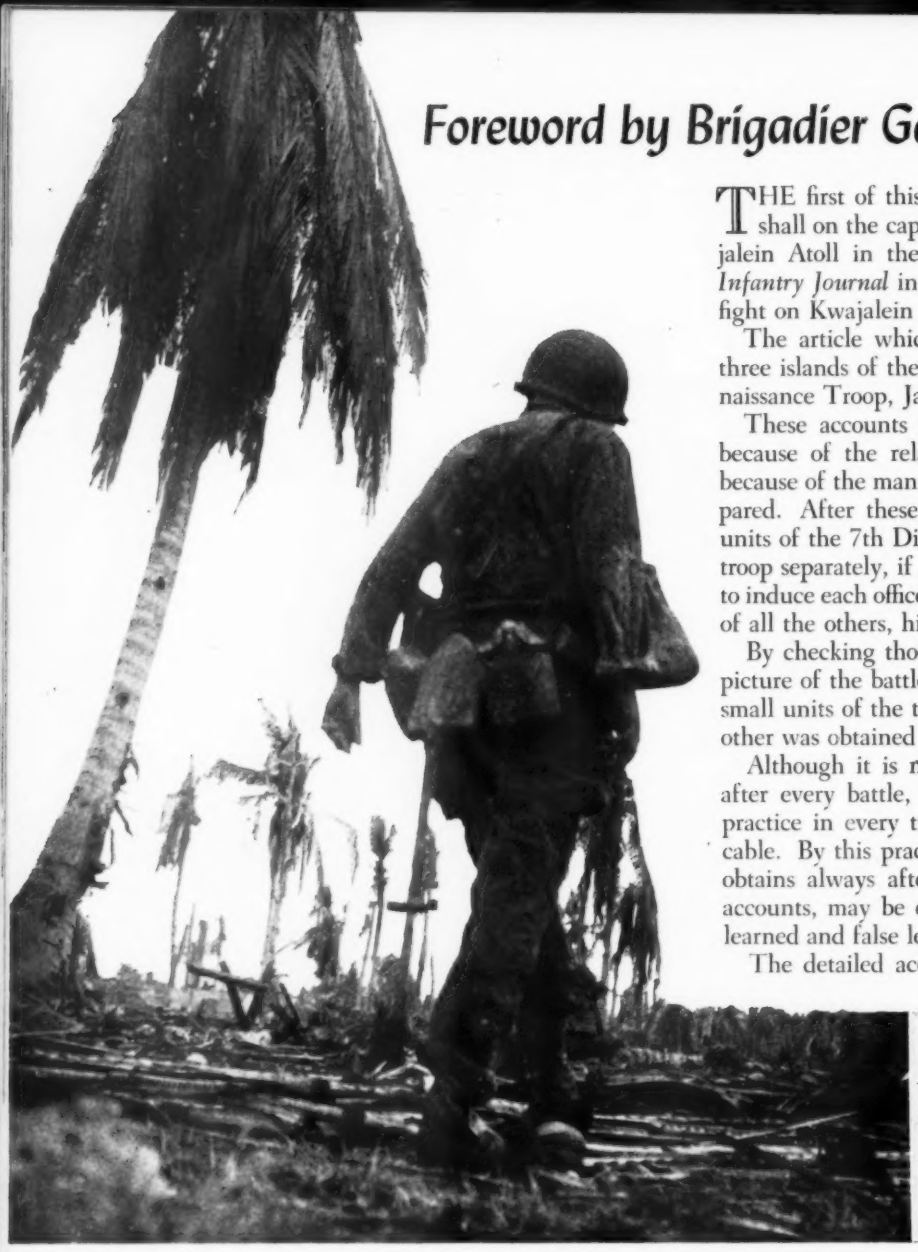
As man conquered the air, a third element was added to his fighting mediums. Warfare became three-dimensional with one element reaching over both of the other two. Additional combinations of warfare became possible. These new mediums are so distinct from the basic elements which produced them as to make them additional elements. The combination of earth and water produces mud; earth and air make dust; and air and water, steam. As soon as any two positive elements are combined, a third distinct element is created.

Combined land-sea arms has produced *Amphibious* warfare; land-air coördination has created the *Tactical Air Force;* and air-sea power has demanded *Carrier Based Planes.*



Not three but six mediums of war now exist. In the contemplation of a single "Armed Force," careful consideration and study should be given not only to the three basic elements but equally to the complimentary elements and the manner of interlocking relationship. As certain types of Army and Naval actions are predominantly ground or sea warfare respectively, any air *vs.* air action is predominantly aerial warfare.

As this war has indicated, however, few major battles will be waged in the future without the various combinations of elements present. To secure absolute coördination, expert understanding of each complimentary element is essential, and direct contact must exist between the two basic elements concerned. It is upon these premises that the foundation of unity of command should be built.



Foreword by Brigadier General H. S. Hawkins

THE first of this series of articles by Colonel Marshall on the capture of some 26 islands of the Kwajalein Atoll in the Marshalls was published in *The Infantry Journal* in its August issue, and described the fight on Kwajalein of Company B, 184th Infantry.

The article which follows describes the assault on three islands of the Kwajalein Atoll by the 7th Reconnaissance Troop, January 31 to February 5, 1944.

These accounts are extremely interesting not only because of the related incidents themselves but also because of the manner in which the accounts were prepared. After these actions, it became the practice in units of the 7th Division to assemble each company or troop separately, if it had taken part in the action, and to induce each officer and soldier to give, in the presence of all the others, his personal account of the battle.

By checking those accounts with each other, a true picture of the battle and the actions of individuals and small units of the troop or company in relation to each other was obtained in a remarkable manner.

Although it is not possible to hold such a critique after every battle, the method is certainly worthy of practice in every troop or company when it is practicable. By this practice, the historical confusion which obtains always after every battle, with its conflicting accounts, may be cleared away. True lessons may be learned and false lessons eliminated.

The detailed accounts, thus learned, of the experi-

Cavalry

IN the operation, which netted the capture of 26 islands in the lower half of the Kwajalein Atoll during January 31-February 5, 1944, the initial landings were designed to provide a stepping stone to sure victory.

Situation and Plan of Attack

The citadel of the general area was Kwajalein proper, at the southern corner of the atoll. Situated thereon was the great preponderance of the enemy strength in men and weapons. With relation to it, the other 25 islands, eleven of which were occupied by Japanese forces, were like a chain of outposts, with varying strength and character.

Under the plan of the 7th Division the first island to be taken was Enubuj Island, 5,000 yards distant from Kwajalein up the western side of the atoll. Next on the list was Ennylobegan Island above Enubuj. The 17th Infantry was assigned to these two islands, and both were in our hands a few hours after the initial assaults were made.

Above Ennylobegan is Gea Pass which provides a deep-water channel to the lagoon. This pass has a rather narrow entrance protected by two islands, and the 7th Reconnaissance Troop was assigned the mission of capturing them. The plan of the division required that both islands be taken on D Day.

It was in the effort to secure these two small islands covering Gea Pass that the cast at first missed and then brought in a haul much more startling than the one which had been expected. Air reconnaissance had indicated that these islands were very lightly held, if at all. But the air bombardment which had distracted this part of the atoll for a number of days preceding the

★Released by Army Historical Section and published concurrently in other Service Journals.

ences of these individual units in the Marshall Islands are very interesting, although it is difficult to pick out many general principles for future application. In each case the situation was peculiar to attacks upon small islands or atolls where the defenders cannot withdraw from action if defeated, but must either hold out to death or surrender. The operations in attacking an atoll or very small island reduce themselves therefore to mopping up and action similar to street fighting.

The experiences of Company B, 184th Infantry, brought out several interesting factors:

After the naval guns and air forces had finished their preliminary fire, and the artillery had added to the bombardment, the terrain on the island of Kwajalein had been reduced to a jumble of shell holes, demolished houses, rubble piles, destroyed trenches, broken concrete walls, felled palm trees—all in confusion and without any discernible organization or order for defense. The infantry's mission, therefore, was to move in small units—platoons, squads and half-squads—with rifles, machine guns, pistols, tommy guns, grenades and other forms of explosives, to mop up the scattered groups of Japs hidden in every rubble heap or pile of debris.

The bypassed rubble heap proved so dangerous that the battalion commander resorted to burning all these heaps in rear of their advance platoons. This was effective but caused so much smoke that the men could not see and the tanks suffered especially from this. It would appear that platoons should be deployed in rear of the advance platoons to take care of every rubble pile or unobserved trench that had been bypassed by the advance platoons. In other words, depth of deployment appears to be as necessary in this type of action as it is in the ordinary formations for attack on large islands or continental areas of operations.

Much initiative and courage is necessary in the leaders of small groups in an operation of this type—but the same thing is true in modern battles of all kinds. Grenades and other high explosive weapons were necessary in large quantities to blast the Japs out of their shelters and hidden places, but it is remarkable also how much rifle fire was used at close range to kill charging and unyielding Japs. In this close quarter fighting, there was little or no use of bayonets.

The conquest of Gea, Chance, and Ninni Islands by the 7th Reconnaissance Troop illustrates the following points of particular interest:

The landing boats, misdirected in the darkness, landed on an island other than the one intended.

The Japs were unable to defend their positions against an attack coming through the thick brush. The cover given by the brush enabled the reconnaissance troops to get so close to the Jap's defenses that grenades could be hurled over the parapet onto the Japs behind their breastworks. These grenades did the work without much loss to the cavalrymen. The Japs do not seem to understand the necessity of clearing a field of fire in front of defensive positions.

The method of advancing through brush by individual bounds kept the battle line going forward without that loss of the forward impulse which is so difficult to overcome when the men cannot see each other.

ly in Dismounted Action*

by Lieutenant Colonel S. L. A. Marshall

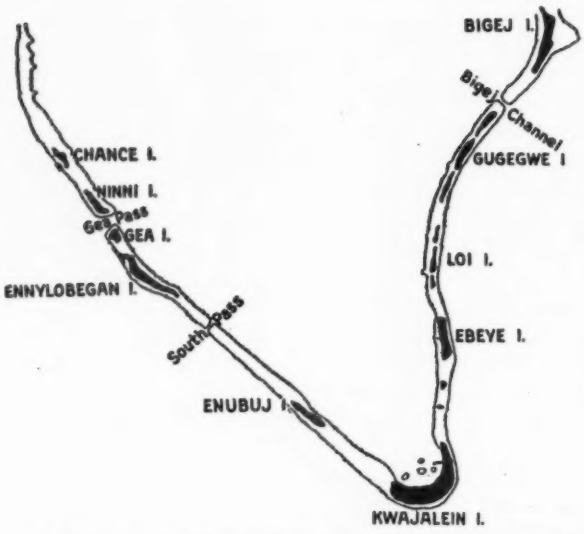
7th Cavalry Reconnaissance Troop Takes Three Islands of the Kwajalein Atoll in the Marshalls

invasion had unintentionally altered the distribution of some of the enemy detachments. A number of small ships—some outward bound on military missions, others carrying parties of Japanese fishing for sport—were strafed and stranded along the western reefs by our aviation. The marooned Japs were still camping out on the smaller islands and waiting for rescue when, in the heavy pre-dawn darkness of January 31, the first small boats of the troop were lowered and the men climbed down the landing nets to begin the operation.

Landings

The 7th Reconnaissance Troop was divided equally; each half was to make the assault on one of the islands on either side of Gea Pass. Accompanying each group was half of an infantry company destined for garrison service.

When the cavalry loaded in their rubber boats and started toward the reefs, not even the outline of the channel islands could be seen. The night was as thick as ink and a light misting rain was falling. The only



Kwajalein Atoll. Islands at upper left were taken by 7th Reconnaissance Troop between 31 January and 5 February.

light to be seen anywhere was the distant glare from the burning dumps on Kwajalein Island.

The hour was 0410. The sea was unusually choppy and there seemed to be a squall rising. The 1st and 3d Platoons, under command of Lieutenant Emmett L. Tiner, entered rubber boats and headed into the wind toward Gea Island on the south side.

The 2d Platoon and Headquarters Platoon of the troop, under command of Captain Paul B. Gritta, also in rubber boats, began to move toward the unseen reef and shore in the other direction. They had been ordered to take Ninni Island on the north side of the pass.

The infantry, which was to support the cavalry initially, went ashore in LCPs and gave the rubber boats a tow to within 800 yards of the islands.

Despite the off-shore wind and a vicious undercurrent, it was still deep night when Gritta's boats completed the journey. At a distance of about 150 yards they saw for the first time the vague outline of the land mass. Twenty yards from the shore the first rubber boats bumped the reef and the men then waded in through three feet of water to what they thought was Ninni Island. By 0545 Gritta's first arrivals had organized a defensive position and put out directional lights to guide the rest of the party. It was not until much later that Captain Gritta and his men learned that they had landed by mistake on what came to be known as Chance Island.*

Tiner's Group Take Gea Island

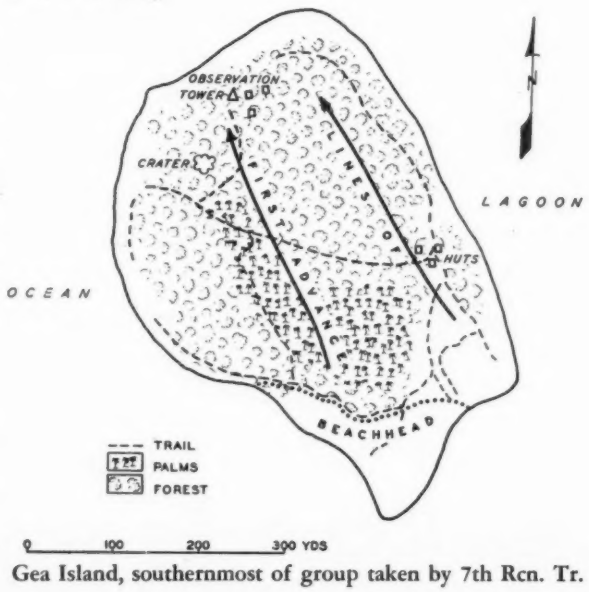
About half an hour later Tiner and his group landed on Gea Island. The dawn was just then breaking, and in the thin light the men could see enough of the detail of the shore to identify their position.

*An earlier report of this action which appeared in the March-April issue of THE CAVALRY JOURNAL refered to this island as Gehk.

While the supplies were being unloaded and the infantry forces were still wading in through three to four feet of water to take over the defensive position on the beachhead, a reconnaissance patrol, which had been put out at once by Tiner, returned and reported that the huts on the southeast corner of the island were unoccupied though the island trails showed signs of recent use. The cavalry platoons were then ordered to move out as planned; one infantry platoon was to follow and protect the flank and rear.

The advance was impeded by the vegetation. The island was extremely heavy in underbrush, with few coconut palms, so that the skirmish line, extending almost completely across the island, had to kick its way through bushes, vines and creepers. The gap between the end of the line and the shoreline made the first sweep futile. The left flank, without knowing it, passed within fifteen yards of the position where the small force of the enemy was lodged, but the Japs held their fire and the flank passed on toward the far end of the island without discovering them.

On ahead ten yards or so, three scouts, Corporal Philip N. Riccio, Private William Toomey, and Private Virden Johnson, entered an area containing three small shacks and an observation tower. These were as indicated on the maps which the three men carried. Toomey walked first to the largest of the three shacks. Passing around to the far side of the building, he found he could look inside through a part-glass door. A Jap was lying in the center of the room on a bamboo matting; his body was covered by a blanket and he was lying on his stomach with his face turned in the other direction. Toomey noted there were other blankets on the floor as if a number of Japs had made a sudden getaway. Toomey motioned to the others to come up. He did not feel excited but he looked at his hand and noticed it was shaking.



Gea Island, southernmost of group taken by 7th Rcn. Tr.

Firing an antitank gun (37mm), American troops of the 7th Infantry Division blast some Japs out of a pillbox on Kwajalein, Jan. 31, 1944. Details of small individual actions, such as this, make valued contribution to combat lessons.

The men prowled the shack. They found that the Jap had been suffering from a wound in the small of his back which had been crudely bandaged. By the bedside a radio was going full blast. Adjoining the room was a small porch and next to it a storeroom containing tins of beef and tangerines, a few cans of beer, and a large sake bottle. Johnson put this prize to his lips and the others looked on. They saw him swallow hard and then spit. The Japs had filled the bottle with fish oil.

The remainder of the platoon came up without drawing any fire or seeing any sign of a live enemy. But what had been found within the shack, particularly the blankets and the distance separating the wounded Jap from the live radio, convinced Lieutenant Claude J. Hornbacher that there was a Jap force somewhere on the island and that by some fluke his skirmishers had missed them. He decided to reverse direction and beat back, sidestepping the line so that it would spread over the strip of ground which had been missed in the first sweep. Riccio, Johnson, and Private Frank Holguin were sent ahead; they started through the brush to the right, twenty yards ahead of the platoon. Even at that distance they were out of sight. The three men went fifty yards, Riccio leading. He held up his hand quite suddenly and whispered: "Watch it!" The others saw him throw a grenade. Then he went down with a bullet through his brain. The scout, Holguin, crawled on a litter. Coming up to Riccio's body, he looked beyond it just in time to see three Japs crawl from a bomb crater and disappear.

Hornbacher crawled on up to his scouts. Holguin told him what he had seen. The platoon was ordered forward and Hornbacher crawled on to Johnson, who had taken a more advanced position. Johnson thought he saw something move in a tree. He took a bead on the spot and whispered to Hornbacher: "Shall I fire?" Hornbacher said: "Let 'em have it!" The first bullet exploded a Jap out of the palm tops and he lay on the ground and kicked.

Still there was no return fire. Sergeants Leonard C. Brink and R. M. Martinson advanced their sections, still believing that there had been but three enemy in the vicinity. Brink, leading the way with a tommy gun, saw two Japs fading back through the brush, and mowed them down. He reached their bodies and figured that that liquidated the opposition on the island. But he wanted to be sure, so he took up a position behind a tree with a two-pronged trunk and ordered the machine guns forward. Though he saw no enemy, he ordered one gun to fire just to make sure it was operational. It jammed immediately. The other gun was brought up to the tree and Brink lifted it into position in the fork about two and one-half feet above the ground. As the gun was settled, a heavy volley of small-arms fire broke around Brink and the three men

who were working with him. Brink sighted the gun the way he wanted it, according to the direction of the fire coming at them, fired a few rounds, and then told Private Claude Fair to hold it there.

Working around the tree and to the leftward, Brink crawled on to seek the enemy position in detail. He saw a Jap aiming a rifle at him from twenty-five feet range; Brink emptied his carbine into him. There was another round of fire from forward, and with it the question in Brink's mind became answered. For he looked now and saw the Japs, ten yards away. They were crouched in a large bomb crater about thirty yards to the front and left of his own machine-gun position. He yelled back to Fair and told him what he had seen and how to correct his fire. At the gun, Fair readjusted, with Private First Class John F. Rysavy helping him. In eight minutes they fired two and one-half belts, spraying bullets across the top of the crater so that the Japs could not get their heads up.

Meanwhile, Brink crawled back for grenades and then crawled up again. Private C. W. Anderson stood behind the tree with the other two, his M1 pointed so that he could cover Brink.

A Jap crawled over the lip of the crater. Anderson yelled: "He's mine." Brink answered: "No, he's mine," and let him have it with the tommy gun. Then he yelled to Anderson: "Get that son-of-a-bitch crawling off on your own flank." Anderson got him. The three men continued firing from the partial cover of the tree. Fire from the crater bit into the bark and kicked up the sand at their feet. Brink kept yelling: "Come on out and fight, you bastards, you bastards, you." The Japs replied with sticks of explosives thrown as grenades, to the accompaniment of a steady, high-pitched screaming. The bombs blew out harmlessly among the palms.

Brink threw his first grenade. It dropped fair into the crater and was followed swiftly by three distinct explosions; it may have been hari-kari or the grenade might have set off the charges held by the enemy. With the machine gun continuing to put a curtain of fire above the crater against which the Japs dared not raise their heads, Brink threw grenade after grenade. By the time that his hands were emptied, the crater had become silent. The platoon then moved up.

There were nineteen dead Japs in the crater; at least ten had been done to death by Brink's grenades.

While Brink was fighting, the men in the center of the platoon had been crawling forward. As the action ended they were almost up to him. The 1st and 3d Platoons had moved their flanks up until they swung around the crater in a semicircle, but because of the jeopardy involved in this position as well as because of the undergrowth they had held their fire.

The action had actually been fought out by four men. One sergeant, pushing the fight and making a bold decision at every turn, had almost single-handedly liquidated the Gea Island opposition. Private Lawrence

Chance Island, northernmost of group taken by troop.

E. Whalen had been hit in the head while setting up the first machine gun. He was the only casualty outside of Riccio.

After the Jap bodies were examined to make sure that all were dead, the skirmish line moved on through the brush. Brink and his group ran into three more Japs on the beach. He called on them to surrender. Two ran and he shot them down. The third gave up. At 1000 Gea Island was turned over to the infantry garrison.

Gritta's Men on "Chance" Island

On the other island, where Gritta and his men landed, all forces were ashore by the hour when the light became full. The infantry then took up a defensive position, and the cavalrymen began their sweep toward the southeastward. In an isolated encounter with six Japs, four were killed and two captured. Then Fate began to take a leading hand in the proceedings.

The flank next the lagoon shore halted as it came to a beached ocean-going tug more than halfway down the island. The wreckage on the deck indicated that the ship had been smashed during the air attack. On the bow of the tug was an unattended 40mm gun which looked to be in good working order. A beached landing barge lay inshore from the tug and around the barge a dozen or so Jap bodies rose and fell with the shallow water. There were a few other dead in the sands, the victims of strafing.

At first nothing stirred aboard the vessel. Then a Jap ran out on deck and ducked back in again, ran out and ducked in again. Our men wanted to take him

prisoner. An interpreter yelled to him to come out. "Dete Koi!" "Kusan se!" A machine gun was trained on the tug as persuader. But all of this availed nothing. The Jap remained under cover. Our men kept the gun trained on the tug. They did not go aboard.

While this was happening the skirmish line farther inland had experienced slight misadventure. One of the scouts had found a hut well hidden in the undergrowth. He worked up to it, and three men from the mortar section came along behind him. There were rifle shots from the hut and a mortar man fell. Our men crawled onto the hut and grenaded it. But the enemy had fled. In the excitement attending this small incident, the mortar, some mortar ammunition, and the rifle of the wounded man were dropped. They remained there.

Captain Gritta Moves To Ninni Island

It was at about this time that Division Headquarters informed Captain Gritta by radio that he had captured the wrong island. For that, blame the darkness! It was a simple case of having picked up the wrong bit of land along an unknown coast. Gritta's force had come to "Chance," the next island north of the target. The Command was still most concerned that both sides to Gea Pass should be in our hands by sundown. Gritta was told to get his men over to Ninni Island at once.

Then one of the "dead" along the beach came to life. He was badly wounded, but was conscious, and he had lain among the corpses feigning death. The man did not rouse easily but Gritta put a few questions to him through an interpreter. "How many men on the tug?" He at first said "fifty," but then pointed toward Ninni Island and kept on pointing that way. At the same time he motioned toward the rifle in Gritta's hands. Gritta took this to mean that there were fifty riflemen on Ninni Island, but concluded that Chance Island was unoccupied. Before quitting it, however, he ordered an infantry section to the southeast corner of the island and told the sergeant to keep a machine gun trained on it.

At 1000 the men got back into their rubber boats and started for Ninni. By 1430 the search and capture of the island were complete; no enemy had been found. At 1600 the infantry company on Chance Island reported that the beached tug was swarming with Japs and that others were ashore on the lower part of the island. One of the men was dead and one had been reported missing. The entire 7th Reconnaissance Troop was ordered to reëmbark for Chance Island. But as no boats were available, they passed the night where they were. The men were without food and water, and Gritta told them to shoot coconuts from the palm trees.

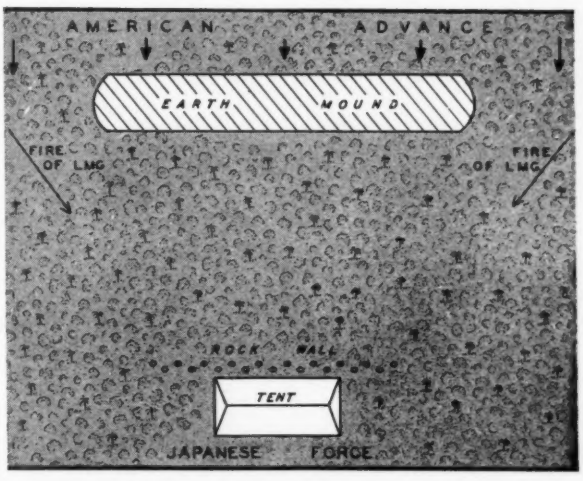
Second Capture of Chance Island

The attack of the islands at the Pass had fulfilled its purpose. There remained the task of whipping the Japs on Chance Island. In the middle of the second day the infantry force was moved from Chance Island to Ninni. The troop landed. Several barges got caught on the Chance Island reef, so one squad from the troop was put ashore to take over. They sent back word that an enemy group with two machine guns was in position not far away. They could hear the guns fire. The American flag which Gritta had run up on a tall palm the day before had been challenged by the banner of the rising sun which the Japs had nailed to a taller palm. Another Jap flag floated over the tug.

Lieutenant Glenn Carr and one platoon went ashore at 2000, and after confirming the reports about the enemy position, set up a defensive position for the night and awaited the arrival of the troop. It landed at 0800 on the third morning on the north end of the island. Then the troop moved out—three platoons abreast with Headquarters Platoon in the center rear. This formation covered about three-fourths the width of the island along the route of advance. There were 115 present.

The scouts worked out ten to fifteen yards in front of the skirmish line. Yet for all that, the movement was steady and cautious. The troop had already found its own unique solution to one of the main problems of advancing a line through underbrush country. When skirmishers advance erect under such conditions, the shock of sudden and unexpected fire will usually flatten them in an instant. When that happens, all tactical unity is lost for the time being. The men cannot see one another and before they can again become a force moving forward, there must be much searching and finding. In this way much time is lost and the initial momentum is gradually dissipated. With every halt, even though there is little danger, it becomes more difficult to rally the line.

This was what the troop did—the men made the approach bounding "like jack rabbits," taking four or five quick jumps at a time, then crouching on haunches,



Closeup of area behind the earth mound, Chance Island.

taking a look around, then bounding forward again. So doing, they kept in motion nearly all of the time and offered a minimum target to the enemy.

There were more palms on the island and somewhat less bush than on Gea. The morning was sunlit and the air bracing; the terrain was fairly level. The line moved along evenly for more than half the distance down the island. No fire came toward it. The men kept silent and moved straight on.

At the approximate center of the island the line drew in sight of a long mound of earth about five feet high and sloping at both ends. It looked at first as if it might be the enemy resistance center but the scouts moved around it on the flanks and sent word to Gritta that it was undefended. There was a pause at the mound as scouts and leaders conferred about the next move.

First Sergeant James Martin and Lieutenant James S. Mahoney went around the two ends of the mound to reconnoiter. Both met loose sniper fire. They figured there were about four snipers up ahead on either flank. Gritta then talked to his officers and it was decided to send a light machine gun around each end of the mound to clean up the snipers. Since the mound had not been used as a revetment by the Japanese, it was figured that possibly the enemy were using it for their sighting, intending to pour fire on it as the Americans rose up and over the mound.

Gritta, feeling that he was just about in contact with the Japs' main body, determined to turn the mound to his own account, and employ it as a protected base from which to maneuver the troop. With that idea in mind, he directed the light machine guns to complete the flank movement around the mound by pouring a concentrated fire into the heavy vegetation ahead so as to make the Japs keep their heads down. By these swift decisions, he nipped the enemy plan of battle in the bud. The automatic fire kept the Japanese from ever having a clear sighting of the American line as it moved around the clear ground adjacent to the mound.

As the guns broke into action, the assault line moved up, parted both ways around the earthwork, and joined flanks again on the far side. The support remained behind the mound and the supplies were brought up to the same ground.

The left flank had moved up to about even with the beached tug when fire—rifle and automatic—burst over the left center, pinning its riflemen to the ground. Though it came from forward, the crackle was directionless and the gun positions could not be seen. Accompanying the fire came a yell from the defenders. It was a yell neither of terror nor terrifying, but likened by those who heard it to the "squealing of pigs." The note is characteristic. The Japs are apparently trained to this yell believing that it will unnerve enemy troops. The effect is the exact opposite. Our men say that it provides a comic relief from the tension of battle. In this instance their porcine racket gave their position away.

Because of the heavy foliage and the palms, the enemy fire engaged immediately only one small segment of the assault line embracing one machine gun and twenty rifles. The troopers could not see the force which was pinning them down. But they rolled or crawled into whatever tree or ground cover was at hand and then fired in the direction from which they had heard the squealing. The return fire cut the grass and trees around them and wounded a few of their number. Sergeant Brink was hit in the arm and the shot bounced his rifle five yards away. He was not quite through for the day. As he rolled over to get the rifle, another bullet drilled him through the buttocks. He wanted to keep on fighting but Tiner told him he was bleeding too badly.

Carr and Tiner crawled forward to locate the Jap position. They passed Corporal Clifford T. Fjetland just as Fjetland was clipped by a bullet. He continued to fire so as to cover them. Sergeant Ernest F. Fessenden, in charge of the machine gun, had observed a row of palm fronds in an unnatural position just above the ground. He trained the gun on what he saw. Unwittingly, instinctively, he had picked out the main position. As the fire cut through the fronds, there was again a terrible screaming as of pigs—though this time it sounded like pigs in a slaughter pen.

Carr and Tiner, pulling themselves along by knees and elbows, saw the target through the dense growth. They had crawled five yards beyond Fjetland. Another ten yards on they could see the vague outline of a low-lying and elongated tent, the sides of which were camouflaged with palm fronds. The tent, broadside to the troop, was draped above an earthwork with a wide trench of about three-foot depth with a parapet of loose-piled coral rock. Carr could see nothing moving within, such was the darkness under the dense palm growth, but he could almost feel the heat of the fire coming from behind the rocks. Tiner saw what he took to be a pile of Jap bodies. He heard Fessenden shouting: "Come back! Come back! They're still alive in there," he, too, having distinguished the outline of the tent meanwhile. Two more machine guns were brought up to position where their fire would bear on the tent. Still, the Jap fire did not slacken.

The left center became thinned by casualties. Private First Class Vonnie W. Gray, first-aid man, left the shelter of the mound and walked to the front line to dress the wound of a trooper hit in the arm. While he was at it, Sergeant Johnnie Bonavia was lifted bodily by a heavy explosion which left his right leg shattered and bleeding. Gray left the first man, then with his trench knife started hacking away at the branch of a palm, intending to use it as a splint for Bonavia's leg. Another heavy explosion shook the tree above him and knocked a frond down so that it fell beside Gray. He

picked it up and whittled it to his purpose. Not being able to leave Bonavia, Gray stayed on the spot and took care of the wounded as they crawled to him, until T/4 Leonard V. Echlund and Private First Class Lesmore G. Durgin came forward from the mound and carried Bonavia back. The sight of that first-aid man continuing his work and paying no attention to the enemy fire was an example of courage that stimulated and enriched every fighting man who saw it. The troop was to talk about it for days to come.

One trooper saw a Jap rise from the top of a palm above the tent position and heave something into our lines. Another trooper was hit by the flying steel. A third trooper fired and the Jap came tumbling out of the tree. He plummeted to earth within sight of our men and they looked him over later. He was wearing a United States Army mortar ammo apron. It explained the heavy explosions which had rocked the position even more than the Jap grenade fire. From the palm top the Jap had been heaving mortar shells into our lines—the shells lost the day before during the incident at the hut.

It was even closer than that on the left. A Jap with a sub-machine gun was firing erratically at our center. Our left could not see him but the center was countering by tossing hand grenades toward the fire. Every burst shook Lieutenant Mahoney and covered his men with grass and dirt. He was very annoyed about it—until he discovered that he and the Jap with the machine gun had taken cover on opposite sides of the same tree. The Jap was killed by fire from the flank, which relieved Mahoney's mind. Five other Japs were killed over on the left in an isolated action—two by the rifle of Sergeant Harold J. Swaldi. Sergeant Martinson, seeing no enemy in front of him, kept spraying the undergrowth from the center of the left flank. Sergeant Lowell E. Venneberg, who had already killed two Japs with his rifle, figured that Martinson's fire was ranging too high and stood up to tell him. He was clipped by a bullet. The troop's right was almost non-engaged. The rest of the close-up action revolved around the center.

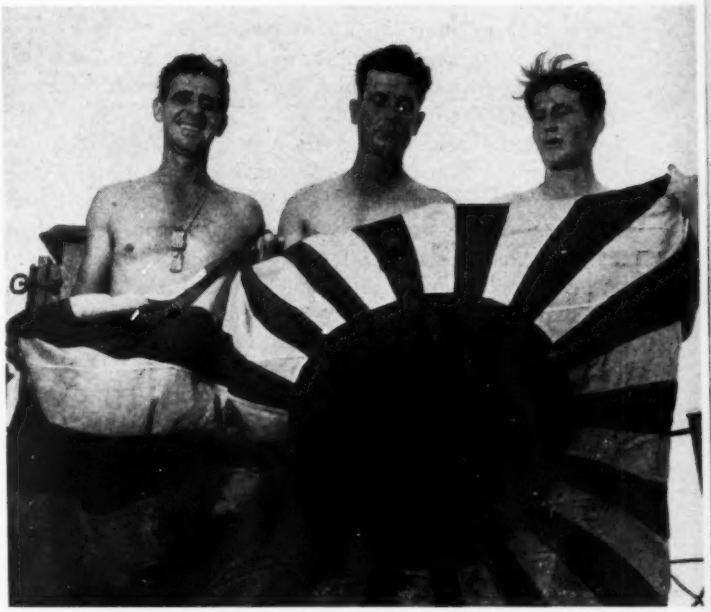
At the base behind the mound all went well. Men and weapons were sent forward to the assault as needed. It was expected at first that the enemy would attempt a quick charge over the mound and men were posted to cover it. The attack never materialized, however, as the Japs had no chance to break from the tent position once the machine guns found them. Captain Gritta moved up to the line. A Jap rifleman hit Corporal J. B. Hill in his ammunition belt and deleaded seven bullets, without damage to Hill. Gritta drew a bead on the Jap but before he could fire the Jap hit Gritta in the arm. Gritta shot the Jap dead and kept on fighting. T/5 Alfred Nixon was also hit in the ammunition belt and his own brass stopped the bullet from entering his body.

In the center the Jap fire slowed but did not stop. The parapet had grown higher. As the Japs manning the weapons were cut down man by man, new hands came up to the guns and piled the bodies of the dead above the rock revetment. Thirty-nine bullet-riddled corpses were found piled lengthwise above the front of the trench when the fight was over. Fessenden's guns and the rifles supporting them could make little impression of this mass of flesh. They realized at last that they were wasting most of their fire power on dead men. So they turned to grenades. Thirteen men joined in the throwing, and all told, forty grenades were heaved into the tent.

That did it. The return fire grew feeble. Private First Class Emanuel Fried and Corporal Eugene C. Kruger moved up to a range of fifteen yards with a bazooka. They fired one rocket. Two Japs reeled out of the tent and walked forward, one carrying a pistol. One yelled: "Oh God damn!" loud enough so that the Americans heard him above the roar and rattle. Then both men fell under the machine-gun fire. Fried's second rocket exploded dead center inside the tent and stopped the show. There was no longer any return. But a third rocket was fired into it for good measure.

The entire action had lasted about forty-five minutes. The count showed sixty-five Japs killed in and around the tent position. There were fifty-five other enemy dead on the island, most of which had been killed in the air attack. The troop's casualties in the fight at the tent were fourteen wounded.

That night came a message from the Division Commander: "Well done, 7th Reconnaissance Troop." What had looked like a routine assignment had yielded a Donnybrook. The cavalry had killed its weight in Japs.



Men of 7th Reconnaissance Troop display Jap flag, which they replaced with the Stars and Stripes on Chance Island.

WITH THE PHILIPPI

by Major Arthur K. Whitehead, Cavalry

In previous installments published in The Cavalry Journal *Major Whitehead has told of the activities of the 26th Cavalry (P.S.) during the Jap attack on the Philippines, the march north through Luzon and the battle in the Lingayen hills; then of his personal experiences after he was separated from the regiment and while thwarting Jap capture during two months of primitive existence from Luzon to Panay.*

By the end of February, 1942, Major Whitehead reached Iloilo City, Iloilo Province, Panay and reported to the headquarters of the 63d Philippine Infantry Regiment of the 61st Division, with which he was to serve as regimental S-3.

THE 61st Philippine Army Infantry Division, with the mission of protecting the Island of Panay, comprised three rifle regiments plus special troops.

Panay Island is shaped like a triangle. From a north-south axis over to the west coast of the island there runs a deep, rugged, heavily wooded mountain range which almost throughout is inaccessible to anything except a man on foot. On the east side of the north-south axis the country consists largely of plains which become hilly in the northern part. The island is divided into three provinces. One takes in nearly the entire west coast; one the north; and one the east and south coasts. All of these provinces have their share of the mountain range.

At the beginning of the war an infantry regiment occupied each of these provinces. Two of these regiments did not have enough rifles to arm its men, and in the whole division there were probably no more than 30 machine guns and no mortars. The division was extremely limited on small-arms ammunition. Hand grenades were being manufactured in local foundries.

Artillery, mortars, machine guns, and rifles, plus ammunition and other necessary equipment scheduled for Panay had gone down in a ship sunk in Manila Bay in the first days of the war. Because of this serious lack of matériel and ammunition, the division commander had decided that it would be impossible to protect the island from actual invasion, but believed that, by falling back into the mountains when the Japs arrived, it would be practicable to carry on guerrilla operations. If and when the Japs invaded the island, each of these regiments was to destroy everything that might be useful to the Jap army and then fight delaying action to the mountains, where the three regiments would try to hold.

By 1 March 1942, division, regimental, battalion, and company CP's were constituted in the mountains with 6 months' supply of rice, canned food, ammunition, and medicine. Bodegas or storehouses were built of logs, bamboo, and nipa to hold these supplies. They were hidden and the paths into them were camouflaged and guarded night and day. These supplies, which were to remain untouched until absolutely needed, were packed to the bodegas at night so that Jap planes, which were overhead most of the time, could not observe the activities.

Although a civilian home guard had been organized to patrol the coast line, it was also necessary for the army to have observation posts at critical points all around the island and a system of telephones for reporting back to regimental and division headquarters any information regarding sea activity off the Panay shores. This system of observation and communication required the services of most of the men of each regiment. The remainder spent their time from sunup to sundown improving defensive positions and road blocks to aid in the contemplated delaying action while withdrawing to the mountains. Everyone was more or less jittery. Bombing and strafing were daily occurrences. Regimental headquarters was awake day and night with reports from the coast patrols of Jap activity off shore. Although the Japs seldom tried to land, information indicated that they were making plans. It was recognized that when they did decide to land, they would land in force—as they had on Luzon—and there would be little chance of stopping them. There was not one piece of artillery on the island.

Anyone who left headquarters even temporarily did so with arms and equipment, and no one thought of going to sleep without his baggage ready to grab on awakening. Even under these conditions, however, much was being accomplished. Seven airfields were under construction—a few large enough for the B-17. A number of American engineers from the Masbate gold mines had been inducted into the army and with the help of civilian labor were in charge of this construction. A faint hope still existed that the States

NE ARMY ON PANAY

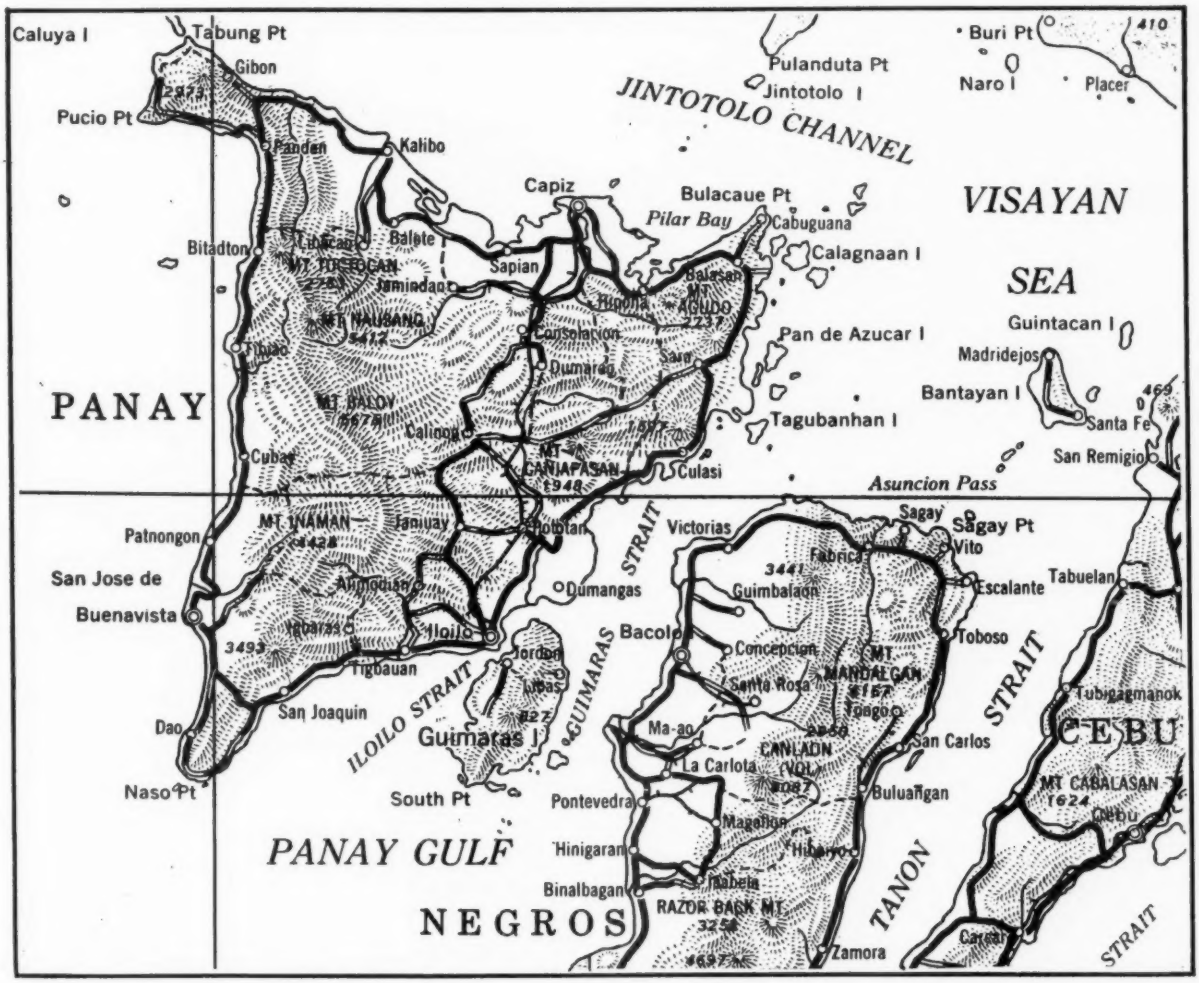
March 1—May 25, 1942

would get help to the islands before the Japs had completely taken everything.

Filipino civilians of service age were also being trained with the hope that there would be arms for them if reinforcements could get in from the States. It was later learned from the Japs that it was this activity—this businesslike and confident show of preparation—that kept them out of the Visayan Islands for so long—until they could spare a force that they thought large enough to invade the islands. That time did not come until after Bataan fell.

During the whole spring, while the Americans and Filipinos held those southern islands, their ports and air bases were used to push supplies into Bataan and Corregidor and to take out wounded.

One day I was told that some wounded had been brought down from Bataan and that among them were a few scouts out of the 26th Cavalry. I went to see them. They were a pathetic looking sight. Only men who had no chance of being useful for service again had been evacuated—those with limbs missing, sight gone, or minds affected from too much battle exposure.



There was one man from Troop A of the 26th, whom I had known well. He did not remember me, or what had happened to him during the past months, or how he had gotten where he was. He had a look in his eyes like that of a punished beast that had been badly hurt. Another scout of the 26th, from Machine Gun Troop, had lost a leg, but he did not seem to be at all bothered by it. He was in a fine state of mind. I asked him questions about the regiment and officers in it, but he knew very little that had happened outside his own troop. He said that there had not been time for him to do anything but take care of his gun, his horses, and himself from northern Luzon down to Bataan. Upon reaching Bataan he was wounded and taken to a hospital and after that saw no more of his troop.

By the middle of March the division commander issued orders for each regiment to form horse units, and I was given this detail in the 63d Regiment. Because the terrain was different in the area of each regiment, the division commander went into no further details in this order. Consequently, it was left to each regimental headquarters to form its own policy.

Most of the terrain of Iloilo Province, occupied by the 63d, was flat up to the foothills, but from there on it was so rugged that only a man or sure-footed horse could travel over it. In some places it was necessary to travel from 20 to 30 kilometers from the CP's in the mountains to the main roads or towns that the Japs were logically expected to occupy.

It was recognized that reconnaissance units would be necessary; units with a great deal of mobility would be needed for getting into a place quickly, hitting, and getting out quickly—and the more fire power a unit on such a mission carried, the better. Such units would have to be kept as mobile as a man on a horse. There would also be the need of some means for assisting the machine-gun companies to transport their guns through rugged terrain and possibly later for packing supplies over the foothills to the mountains.

The native Philippine pony averages 12 to 13 hands. He is usually short-coupled, heavy barrelled, and has endurance beyond belief with the feed that he gets. With a moderate amount of grass and a little rice bran, he can carry a 150-pound man over hilly terrain day after day. Few native ponies are gelded, and between the mare and the stallion it appeared that the stallion had much more endurance. The handicap with the stallion was that he would fight any other stallion and usually went crazy when a mare was around; however, it was decided in the 63d to use stallions.

Fortunately, there was a good Filipino veterinary with the regiment who prescribed feeding, stables, and care. Each day a nourishing grass called Sakate was trucked in and each pony given his fill of this three times a day. When *palay* (unhulled rice) is milled, a nourishing bran is thrown off that makes good horse feed. A double handful of this bran, with sugar or syrup, a teaspoonful of salt, and a tablespoonful of coconut meal, mixed with enough water to make a firm mash, was fed night and morning. That was the horses' diet. On a march, each pony carried a sack of this mash mixture dry. Feedings were mixed with water and fed off the saddle blanket. At such times the pony foraged his own grass.

Stables were made of bamboo frame covered with nipa. Each stallion had to have a separate stall, and the stall had to be strong enough to keep it from being kicked down. It was often more satisfactory to fasten each pony to a tree by means of a permanent rope halter with tie rope attached. Ponies had to be kept well separated.

Ready-made shoes small enough for the native pony were bought and a blacksmith was located. Only the front feet were shod. In an emergency, it was possible to get a considerable amount of work done without shoeing at all, as most native ponies have never had on shoes and the feet hold up remarkably well. Comparatively little attention was paid to grooming; however, each man carried a small brush with which he went over his horse at least once a day when possible. Curb bits to fit the pony's mouth were available, and native leather workers were hired to complete the bridle. For saddles, native saddle makers were hired to make a one-piece wooden frame on the type of the McClellan saddle, except smaller to fit the pony's back, and this was covered with caraboa hide. Stirrups were made of wood, and for saddle blankets burlap sacks or anything better available were used.

The big problem was that of packs. There was no information available on the U. S. Cavalry Pack, and native packs proved unsatisfactory. With the help of a foundryman we undertook to make from memory a Phillips' pack to fit the native pony. With steel one-eighth inch by one-half inch a frame was made to duplicate as nearly as possible the form of the Phillips' pack. Inside of this a pad was screwed on each side. The pad, about twelve inches by fourteen inches, had a base of one-quarter inch leather. Kapok, a native cotton, was held in place by a canvas cover sewed like a quilt. The pad was three inches thick with the leather against the steel frame and the canvas toward the pony's back. This was the saddle. Two cinches, a breast strap, and a crupper completed the harness. The pad could be detached from the frame by releasing six screws. There was a small hole in the leather back through which it was possible to put in or take out kapok. The pack was rigged so that loads could be lashed on it.

Carriers which were hooked onto this pack were constructed for the purpose of carrying the water-cooled machine guns. Each gun-animal packed a gun, tripod, water can, and one box of ammunition. With this load the pony could walk for as long as a man could lead him. Another type carrier was constructed to carry three boxes of ammunition on each side.

The system established was that one man in the machine-gun squad led a pony carrying the gun and one

box of ammunition; another led a pony with six boxes of ammunition; and another led a pony carrying food. This arrangement caused a slight reorganization in the machine-gun squads but made them self-sustaining and able to march for two or three days at a time without replenishing.

The men and horses to be used for reconnaissance, message carrying, and for hitting quickly were trained as prescribed in U. S. cavalry manuals.

To increase the fire power of the rifle squads, additional carriers were constructed for led horses. These packed a Browning automatic rifle on the center of the saddle with four or six clips on each side, and after only slight training were as mobile as the mounted riflemen who led them.

Each cavalryman carried a rifle over his shoulder, a long bolo on his belt, and a blanket with rice and mess kit around his middle. A small sack of dry mash was carried on the cantle of the saddle.

When instructions were received to organize these units, an immediate effort had been made to secure suitable mounts. Since the army had taken most of the automobiles and had a monopoly on the alcohol which was used in place of gasoline, the civilian population was largely dependent on ponies for transportation. After eliminating those animals essential for civilian livelihood, there were only enough available on Panay to start one platoon of cavalry and a small group for packing. To get more ponies, it was necessary to go to the Island of Negros.

Toward the end of March a veterinary and myself crossed to Negros in a small launch. The trip had to be made at night to avoid Jap planes and warships, which at that time, were beginning to be seen regularly in Visayan waters. Landing in Bacolod, we spent the rest of the night in the quarters of some quartermaster officers, and the next day went inland to contact the commanding officer of the Negros forces. He had fewer troops and less arms and ammunition to protect Negros than we had on Panay. Many of his men were armed with .22 rifles, shotguns, and palteks (a native, homemade shotgun), and he had companies armed only with bolos. Like the Panay garrison, they had no artillery.

The plan for the Negros defense was much the same as that for Panay. When the Japs landed, the commander intended to fall back into the mountains and from there carry on guerrilla warfare. He felt that Negros would be invaded any day; already Jap warships had been shelling the eastern coast towns.

While on Negros I heard the story of the American-Filipino regiment which had fought and been defeated at Davao, Mindanao. What was left of the regiment had escaped into the hills north of Davao and from there had started to march through the jungles to join American forces still intact in the north of the island. Living on monkey meat and camotes (a native sweet potato), they marched for fifteen days before finally reaching friendly troops. They carried their wounded with them, and I was told that enough of the regiment got through to operate as a unit against later Jap landings on the west coast of Mindanao.

The veterinary and I spent the next week in picking buying, and trucking ponies to Bacolod, where they were shipped across to Panay. About then it was reported that the Japs had attempted landings on the Island of Cebu, but had been driven off. Daily, Jap warships could be seen in the channels between Negros, Cebu, and Panay. One evening, down near Dumaguete on the southeast coast of Negros Island, several explosions were heard, and a red glare appeared in the south. It was reported that one of our Q-boats had sunk a Jap destroyer.

On 9 April 1942, we landed back on the Island of Panay, and as we were leaving the boat, the captain called me aside and said in an apprehensive tone that he had heard by radio that Bataan had fallen that day.

By that time, the platoon of cavalry which had been organized in early March, was in fine condition. Personnel had been selected from infantry soldiers who had ridden and worked around horses for most of their lives. The principle need for both men and horses had been training in close and extended order mounted drill—and they had learned rapidly. With the arrival of the ponies from Negros two more platoons were formed and equipped and the pack units organized.

A few days later it was learned that Cebu had been invaded. Jap warships and transports had been reported off shore daily, and late in the afternoon of April 15 four transports were reported moving slowly off the southwestern tip of Panay. Some time before daylight of the 16th a few Jap patrols sneaked ashore in the vicinity of Otone, a small town ten or fifteen kilometers west of Iloilo City. They surprised the shore patrol, cut the telephone wires, and signaled the transports that all was clear, and with that the Jap landing force headed toward shore in small boats. (The details of these events were learned weeks later from a Filipino civilian who said that he had hidden near by and watched it all.)

The commander of the Philippine battalion garrisoned in Iloilo City was first notified of the landing at 0600 of the 16th. By that time a fairly large force of Japs had landed and were approaching the city. There was time, however, to blow up or set fire to installations that would be useful to the Japs, so throughout the day there was much skirmishing around the city and its vicinity. A flanking movement by the Japs from the west into the town of Jaro, two or three kilometers north of Iloilo City, nearly cut the battalion's route of withdrawal to the mountains, but after dark most of the sodiers were able to get out of the city and into the mountains. (This information reached regimental headquarters about two or three weeks after the action. Still later it was also learned that a simultaneous landing had occurred on the northern coast of Panay near the town of Capiz.)

At 0700 on the morning of the 16th the 63d Regimental Headquarters, about fifty kilometers north of Iloilo City, was notified of the landing. Explosions could be heard to the south, and from time to time Jap reconnaissance planes passed overhead.

We ate breakfast, dismantled camp, and before noon were on our way to the mountains. Travel was considerably slowed by the continuous attacks of Jap planes which dive-bombed and strafed the troops throughout the day.

By nightfall the cavalry was bivouacked in the mountains. The next morning a few of us rode back twelve kilometers to the stables to see if anything of value had been left. While there we burned the stables—it was hard to see them go down after the work we had put into building them. That afternoon we went to the town of Janiuay which had not then been occupied. The soldiers, resting in their trenches which covered the road blocks both south and east of the town, appeared to be calm and in good spirits.

The next morning the Japs arrived, but they were not rushing headlong and taking losses as they had done on Luzon. Two scouts on bicycles first appeared, and as soon as they saw the road block they hit for cover. About an hour later mortar shells started landing around our positions. Unobserved, the Japs had cleverly sneaked up to high ground overlooking our positions and from there called for mortar fire. Our positions were not well camouflaged and our men kept moving, so that it was not difficult to locate us. Before long, mortar shells were landing in and around the trenches. While a rear guard held the road block until dark, the troops were prudently withdrawn to the hills in the rear.

The next day I rode north over the foothills to the Regimental CP and arrived there that night. No word had been received from the battalion in Iloilo City, and it was learned that the center battalion, withdrawing to the mountains, had become badly disorganized. On top of that, all of our luggage had been lost.

On April 20th I started back to the cavalry bivouac with orders to divide the units between the three rifle battalion commanders for their use in reconnaissance. As Jap columns had advanced over the foothills to the mountains, it was impossible to return by the original route, so the trip back required two days over steep mountain trails.

A company of infantry was also stationed around the cavalry bivouac area. Morale was not very high, as it was reported that a column of Japs, supported by artillery, was moving in our direction. Mounted patrols were sent out and those who returned reported Japs camped in several different areas not more than a few kilometers from our position. Some of the patrols failed to return. Throughout the night part of the infantry company dispersed; the next day the remainder pulled back into a better position.

At that time, another American and I started again to Regimental Headquarters. Four days later we arrived. The penetration of Jap cavalry and infantry into the mountains had forced us to make a considerable detour to dodge them. After losing our way and running out of food, it was only by the help of a civilian native that we finally reached Headquarters, well hidden deep in the mountains.

Of the three rifle battalions, only one could rightly be accounted for. With favorable terrain the commander had been able to hold his companies together, and at his last prepared position had made the Japs pull back into the valley, after killing nearly a hundred of them with very slight losses to himself. No contact had been made with either of the other two battalion commanders, and with only one company of either of them.

After one day's rest, four of us started south to get what information we could of the other battalions. Patrols had reported that the Japs were leaving the mountains and returning to the towns in the valley. It was an impossible task for them to find us in those mountains, which were extremely rugged and covered with dense forest. In the first place, they could not supply themselves. Second, when they attacked in force, we dispersed; when they sent out small patrols, we sniped at them.

Although the distance from Regimental Headquarters to the farthest battalion CP was not more than forty kilometers, because of the difficult trails, it was a three and a half day hike. Within a week most of the company and battalion CPs had been located.

On May 7th and 8th word came from Division Headquarters, which had radio contact with the other islands, that Corregidor had surrendered. This news was a severe blow. Until then there had been some hope that help would get through from the States, but this news ended all hope. We had had 6 months supply of food stored away in our bodegas, but in the confusion of retreating to the mountains, many bodegas had been burned in order to keep the Japs from getting them—some of them in areas that the Japs never reached.

During the next few weeks we laid several ambushes—and with considerable success. But the Japs, instead of coming into the mountains after the soldiers, lined up the civilians in the barrio nearest any such incident and shot 10 persons, men, women, or children —to every Jap that had been killed. The ambushes were continued, but an effort was made to warn the civilians in time for them to evacuate the area.

Our improvised cavalry proved extremely useful during that period. Although not too well trained, the men knew how to take care of their ponies and many of them, being natives of the province, could go from one place to another without a map and bring back important information of the enemy. They covered two or three times the distance possible for a man on foot and actually kept us informed of enemy activities in an

area reaching as far as 20 kilometers from the mountains.

During those last few weeks most of us slept wherever we found ourselves at night and ate rice whenever we were given it.

In the third week of May written orders from Division Headquarters ordered everyone to surrender to the Japs between certain dates at certain contact points. It had taken that long after the surrender of Corregidor to persuade our commanding general to give up. Mindanao, Cebu, and Negros had already surrendered. It had been necessary for an officer on the staff of the "Japanese Commander of the Southern Islands" to fly from Mindanao to Panay in order to accomplish this. The order read that any officer or soldier not surrendering would be considered a deserter to the United States Army. The reason given for the surrender was that the Japs, having taken Corregidor, were still holding the prisoners there and demanded that either all American and Filipino forces still active in the Philippines be surrendered immediately or the prisoners from Corregidor would be killed.

There was not much choice left. Battalions were assembled near designated contact points. At these points white flags were raised. Records and paper money were burned. About the 21st of May two officers from Division Headquarters gained contact with the Jap commander of the Panay forces. Division and Regimental Headquarters of the 63d were ordered to assemble at the Barrio of Misi on May 24th in preparation for surrender the following day.

It was a glum quiet group of officers who hiked out of the mountains that day. One incident remains in my mind, possibly because of its irony. The division finance officer and I had gotten well ahead of the main group, so when we came to a spring we sat down to wait for the rest. The finance officer pulled out a sheaf of 100 peso notes and without saying a word, began to burn them one by one. With all of this money we had not had a good meal, or drink, or smoke for more than a month, because there was no place to buy them.

That night most of us slept in the barrio schoolhouse. Word came from the general to shave our beards and look as presentable as possible when we surrendered. The morning of May 25th most of us had a bath and shave in the near-by river. It was difficult to get anyone to talk much.

After lunch a guide came to the schoolhouse and said that the Japs were waiting for us on the other side of the river.

EDITOR'S NOTE: *Major Whitehead, along with the rest of the Philippine 63d Infantry Regiment, was surrendered to the Japanese on May 25, 1942. Recently returned to this country, he is the only known member of the 26th Cavalry (P.S.) to have reached freedom—but the rest of his story will have to wait until a later date.*

Jap Cavalry in the Philippines

by Major Arthur K. Whitehead, Cavalry

ON several different occasions in the Philippines I heard of the presence of Japanese horse cavalry units. These reports were received not only over a considerable span of time but also from a wide range of territory.

Luzon: While camped east of San Quintin, Pangasinan, on 29 December 1941, I sent a Filipino down into the town to get information regarding the Jap troops which could be seen moving along the road. The Filipino reported that besides tanks, armored cars and infantry in trucks, the Japs also had horse units marching south down the road in addition to an encampment of horse cavalry in San Quintin. As nearly as I could determine from the Filipino's observations, the Japs had at that place the amount of cavalry equivalent to two American troops.

Davao: On the Island of Negros about the first of April 1942 an American officer who previously had commanded a Philippine Army regiment, defending Davao, Mindanao and vicinity, told me that when the Japs invaded Davao, after having bombed, strafed and shelled the American position, they had then landed tanks, infantry, artillery, and horse cavalry. He did not know the amount of horse cavalry landed, but he said that the cavalry which he had seen was used for mopping up and for flanking movements over terrain impossible for tanks.

Panay: After the Jap invasion of Panay, which took place April 9, 1942, several Filipinos told me that horse cavalry had been landed with the invading forces of Capiz Province. On about the 20th of April, our patrols reported Japanese cavalry marching from Lambunao, Iloilo Province, west to a barrio of Agsirab in the mountains, where a battalion headquarters of the 63d Infantry Regiment was located. This CP, with equipment, etc. was captured by the Japs. Later Jap horse patrols were sent deep into the mountains, but these were shortly withdrawn when the main invading force of Panay was, we believed, sent on to Mindanao.

Manila: From June 1942 throughout 1943 intermittent reports reaching me from Manila consistently stated that the Japs had horse cavalry stabled at different points throughout the Manila area. According to these reports, the Japs use the Mongolian pony in their cavalry; also, the Jap cavalryman carries a short rifle with a permanently-attached collapsible bayonet, which folds back underneath the barrel of the rifle when it is placed in the boot or carried slung across the back.

From Behind the Axi

During Jap Occupation on Guadalcanal*

by W. S. Marchant

EDITOR'S NOTE: *The author was Resident Commissioner of the Solomon Islands, British Protectorate, and lived there for three and a half years prior to the Japanese occupation. His duties were to maintain the law, keep order and administer the territory.*

AS soon as the Japanese started their eastward drive it was obvious that the Solomons would be very much in the war zone.

It was decided, therefore, that we should retain a skeleton staff for intelligence work and for maintaining contact with the native people.

In short, our plan of action was for the district officers to remain at their stations as long as possible and report enemy movements, but if threatened, to retire to the bush, keep in touch with the natives, and continue to report. Each officer was equipped with a portable radio for communicating with headquarters, which were established in the bush on the island of Malaita. Dumps of food and supplies were made at suitable spots where the officers could retire if necessary. Similarly, the natives were advised to move back from the coast and to establish themselves in the hills.

In the past the Solomon Islanders were famous headhunters, but it has now been 30 years since they organized a raid. Most of them are Christians and the old customs are dying out. Today they live in their villages —sail, fish, cultivate their gardens, and attend church as in many an English village community.

The islands consist mainly of mountains, which rise, as a rule, to about 4,000 feet, though the highest of all in Guadalcanal is 8,000. The climate is hot and humid, and with rainfall up to 10 feet a year, the islands are densely wooded and afford plenty of cover. In fact, the bush is so thick in most parts that is is necessary to hack a way through with knives. As one man said, "You can almost see the damned stuff grow up as you cut it."

In addition to the large island of Guadalcanal, there are half a dozen other good-sized islands, and many smaller ones and atolls.

When the Japanese occupied the group as far east as Tulagi at the beginning of May, 1942, we settled down in native huts in the heart of the islands, where we were well hidden from aerial view by the dense foliage, and resigned ourselves to a period of watching and waiting. For the next couple of months, the Japanese were in undisputed control, and during this period they occupied strategic points, set up defenses, and began the new famous Henderson airfield on Guadalcanal. It was impossible for us to move about between the islands, as the whole area was under constant air reconnaissance by the enemy. His sea patrols visited the various islands, plundered native villages and took anything they fancied from the European houses.

One of our chief problems was that of supply. The climate made it impossible to hold large reserves of food. We could not get new stocks from outside because our sea communications with the outside world had been cut. Flour, sugar, and tinned foods soon ran out, and we grew to rely on native foodstuffs—panna, yam and occasionally a bit of fruit.

All of the time, we kept a sharp lookout for enemy movements, and the native scouts always managed to bring advance information of enemy patrols so that we could get away before the Japs arrived. Sometimes the notice was not far ahead of the Japs. In fact, one officer was having lunch when a Japanese patrol vessel steamed into the little harbor where he was stationed—so, taking his radio with him, he "upsticks and away." When the Japanese landed, all that they found were empty buildings and the remains of a half-eaten lunch.

During the Japanese occupation, the natives furnished our chief source of intelligence about the movements of the enemy. There was no lack of volunteers for this duty, and they took considerable risks to get the desired information. They would set off in small canoes and paddle the 30 odd miles across the water in all weathers —and the waters around the Solomon Islands are often very far from calm. Then the scouts would hide their canoes in the mangroves and set off on foot to the Japanese positions. They often had very narrow escapes, but all through this stage not a single scout was lost.

We listened to these stories which the scouts brought in, sifted out the essential facts, got in reports from all the other islands and after decoding and collating them with our own, sent them off to the intelligence center outside the territory.

*Reprinted from "Interlude on Guadalcanal," *Britain*, January, 1944.

This amazing collection of short stories paint a vivid picture of men who have dared defy death and torture behind the enemy lines in order to further the fight for freedom. Each story represents a different type of resistance against enemy domination—in widely separated parts of the world.

Axis Facade

Often the scouts would get inside the Japanese positions, and, although unfamiliar with the technical terms for modern equipment, were very ingenious in describing what they saw. Once, for instance, we were particularly anxious to know the number and caliber of the Japanese antiaircraft guns, and one scout described them as, "All same small beer bottle"—which, of course, furnished exactly the information wanted.

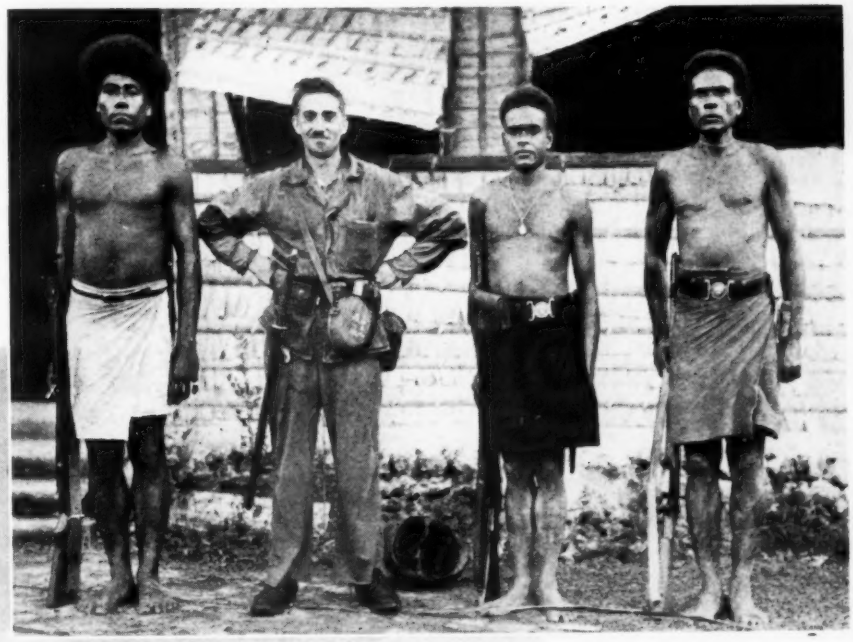
During the construction of the airfield on Guadalcanal, the scouts would engage themselves to work for the Japanese, and then after three or four days they would run away and tell us all about it. They found out where the ammunition was stored and the food and the fuel dumps. They reported where the aircraft were based and the positions of the antiaircraft guns, and they generally studied the habits of the enemy. All of this was invaluable in planning the recapture of the islands. In fact, if it had not been for these scouts and our radios, our intelligence could not have known of the existence of the Henderson airfield, much less the exact details of its defenses.

When the American Marines landed on Guadalcanal on August 7, 1942, the Henderson airfield was just on the point of completion. The attack was a complete surprise to the Japanese, and the Americans captured the airfield the first day. It was the key to the whole island, and when we knew it had fallen, we all felt that our months of hard work and discomfort in the bush had been well worth it.

The Islanders did not take part in the fighting—officially—but they were most helpful to us as scouts and laborers. They were splendid, for example, in carrying up supplies once the troops had landed. That was a difficult job. Everything had to be manhandled, unloaded direct on the beaches, and carried for miles in precipitous mountain country.

The villagers also saved the lives of many of our airmen. If any of our people had to bail out, the natives would set off in their canoes, pick them up, and bring them back to their village. They fed them, attended to their injuries, and then sent word on to the nearest Allied post. Often these villages were behind the Jap lines, and then villagers would smuggle the airmen down the coast by canoe at night, and back to Allied territory.

Sometimes, too, the Islanders had a crack at the Japs themselves. There are plenty of examples of outstanding bravery on their part. One Melanesian sergeant was awarded both the George Medal and the American Silver Star. Indeed, if it had not been for the loyalty of the Solomon Islanders, many of us might now have been in a Japanese prison camp.



→ **Following American landings on Guadalcanal, these three members of the native police force are photographed with a U. S. Marine. During the Japanese occupation, natives were invaluable in furnishing information to British civil agents hid in the jungles. The reports in turn were radioed to Allied headquarters in Australia.**

Wide World Photo

← **Army flying fortresses and fighter planes use Henderson Field, Guadalcanal, after it was wrested from the Japs.**

Press Association, Inc.

A Commando Raid in Norway*

by Cadet Frank Mills

EARLY in January (1944) our Commando unit was sent to an operational air base and taken completely out of circulation. Nevertheless, we still managed to carry on with our rigid physical training. At this point we were briefed and issued with compasses, maps and foreign currency. Some of the Norwegian lads drew up routes to the objective, and we studied and memorized them.

At last the long awaited day arrived. Early that morning, as we went over our obstacles we had a feeling that this was it. About 1600 hours we got the order: "Fit your chutes, pack the containers and stand by for inspection." For an hour or so all was bedlam and confusion, but eventually we got order, and everything was packed and ready.

It was a lovely moonlit night and very warm in the "kites." We each had a blanket, but very little sleeping was done. We discussed almost everything from weather, to the soldier's perennial subject—anything to make the others believe that we were not nervous, or keyed up. The deception was rather hollow at times, but we really tried.

It was snowing a bit and cold when we reached the "dropping zone." We "hit the silk" and landed O.K., but it took us a bit of time to get organized and get to the rendezvous. It is a natural reaction for a man who has just made a jump to be exhilarated and make a little noise. As section sergeant of No. 1 cover party, I was busy for a while.

When we got to the rendezvous, the demolition squad was waiting for us. After No. 2 cover party came up we had a vote, and since we had a good spot for a bivouac, decided to remain there until the following evening. We dug out snow quarters, made slit-trenches in the snow—by the way, 90 inches of loose snow will stop a .303 bullet—and a party of us went out and extended our tracks so that any snoopers would think we had gone on.

Anyone who has been around the Arctic Circle in January will know that there is very little daylight, and so we left on our trek to the objective early the following afternoon. It was rough going. We were packing over 50 pounds each, and each section had a sled to pull. It was cold, and in the mountains it was really tough. We stuck to the valleys where we could and only took to the slopes when we feared running into a Jerry patrol.

The second day out we met a Laplander who had a herd of reindeer. His sons drove their herd along to cover our trail and showed us a small wood-cutters' cabin where we could bunk. The wood-cutter was a short, dumpy chap and looked a bit like an Eskimo. We called him "Mud-Pack," as his real name was too much for our tongues.

The journey to our "Recce point" was in four hops, and we were very glad to get there. We met one enemy patrol, but our scouts saw the Germans first and, as we were travelling in a loose formation, we had no trouble in ambushing and neutralizing them.

Wide World Photo

British Commandos attack under cover of a smoke screen in Norway. Raids have been frequent; sabotage, damaging.

When we reached our "Recce point" we sent out small patrols of three men to find out the score at the objective. They learned the times of changing the guard, sentry, and the strength of the enemy. We were a trifle nonplussed to find that the enemy's strength was almost equal to our own. It was also learned that there were two enemy camps—one, with about 100 men, was located about a mile and a half northeast of the objective; and another one with a strength of nearly 200 was three miles southeast of the objective.

Since our get-away was due east, we had a job trying to figure out just which way to go. We finally decided to bull our way right in between them, and as we would be carrying much lighter loads, figured we could make it. It was very cold comfort to know that two miles east of our "Recce point" a hundred enemy were living and enjoying life.

After two days and a night we started carrying out our mission. No. 1 cover party sent out a man to liquidate the sentry and take out the guard room. This operation successfully completed, the "demolition party" placed their charges on the bridge. This bridge—the object of the raid—was a railway bridge of vital importance to Jerry for getting supplies in for coastal defense and would require about two or three months to rebuild.

No. 2 cover party went off to their station and put derailing charges on either side of the bridge. When the bridge was mined a signal was given, and we hurried to a covered position and watched her go. She really went, too, and we were as tickled as if we had pushed her over. We did not gloat long, but did a fast sprint—and I mean fast—down the escape line. Breaking up into small squads, we made our way to a "get-away point."

How we got out of the country is another story, which for security reasons cannot be divulged at this time. This operation was a good "do" that illustrates the excellent planning of "Combined Ops."

With this kind of planning, how can the Axis win?

*Reprinted from *Blitz* (Canadian), April, 1944.

"By Night We Ruled Odessa"

by Harrison Salisbury★

THIS is the story of thousands of armed people who lived in subterranean garrisons 75 to 160 feet below the streets of Odessa on which trod the boots of the invaders. There were some 10,000 guerrilla fighters and 3,000 other refugees, and toward the end their ranks were swelled by Slovak and French deserters from the retreating Germans. By day they clung to their hideouts. By night they sallied forth in forays against the occupation force. Women issued forth to collect food. Patrols went out to ambush Germans.

"By night we ruled Odessa!" That was their triumphant statement to correspondents who arrived in Odessa from Moscow by airplane and truck a scant 72 hours after the last German troops had fled.

Some of these men and women who came up to their liberated city from caverns had held out underground for two and one-half years in one of the strangest sieges of the war. They had lived in chambers hollowed out of the limestone, with offices, printing presses, wireless stations, hospitals and food kitchens. The underground network covered from a 100 to 150 miles of passages and caves. There was even a cemetery.

The principal entrance was in a workers' section called Moldavanka, in an abandoned quarry adjacent to a bomb-wrecked house. Amid scattered limestone blocks, under over-hanging ledges there were three entrances large enough for a man to enter if he crouched. Major Anatole Loschenko, leader of the catacomb partisans, said that the Romanians quickly discovered these entrances after they entered the city in 1941, but that so many of the Romanian guards were killed the entrances were finally left unposted at night.

★United Press War Correspondent, April 20.

Two small boys with gasoline torches lighted the correspondents' way down the dusty limestone passageways. Three feet high and two feet wide at the start, the passages gradually broadened into a chamber 20 by 20 and 8 feet high. Here was the "reception desk" with a stone barricade where all were stopped and their weapons removed.

The partisan GHQ was another block inside—a small chamber with a wall map of Odessa. There Loschenko had worked behind a stone block desk. At one side was an ammunition works where "flaming cocktails" were made from bottles filled with gasoline. Farther on was a prison chamber for Germans, Romanians and Ukranian traitors.

Loschenko said the organization was perfected in January, 1943, when the front first started to roll back toward Odessa.

"We collected money and started a store of food in the catacombs. We got a small mill for flour and a sausage maker. We set up a printing press and renovated the artesian wells inside the caves. We installed radio and even had connections with the Russian front. The print shop turned out pamphlets warning the populace of dangers.

"When the Red Army started approaching Nicolaev we went underground. By night we issued out and killed German patrols and police. We prevented the Germans from destroying the city.

"For two weeks before the Germans left we were rulers of the city by night."

Loschenko said that partisan women bought weapons for their men "in the open market" from the Germans, who "were even greater speculators than the Romanians." The Germans sold rifles, pistols, and Tommy guns. A loaf of bread bought a grenade.

For the last two days the partisans openly battled the Germans in the streets and killed at least 500.

Civilians in the foreground watch fires set by the Germans and Romanians as they withdrew from Odessa. Organized underground activities prevented widespread destruction of the city, saved many civilians from being slaughtered.

Sovfoto Radiophoto

RED ARMY COSSACKS

Part One — Traditions, History and Uniforms

WRITING of present-day Cossack tactics, an American news correspondent says, "While sabers are their main weapons, some carried tommy guns which they frequently fired from beneath their horses' bellies in Hollywood cowboy style." Such statements are not only grossly inaccurate, but they obscure the real achievements of these adaptable horsemen in machine-dominated World War II.

Cossacks are no longer "pure saber cavalry," and firing guns beneath their horses' bellies is more of a *djigitovka* stunt than a combat practice. The Cossacks *are* colorful soldiers, but they must be viewed in terms of military facts—not romantics.

Prior to this war, the layman, if he thought of the the Cossacks at all, regarded them as dashing cavalrymen of the past—troopers whose day is as dead as that of the German *Uhlan* or Napoleon's *cuirassier*. These horsemen of the steppes, however, were quick in adapting their methods of fighting to the requirements of modern warfare. Thus, modernly equipped Cossack units have, by their combat exploits in this world conflict, proved the usefulness of horse cavalry[1] in present warfare.

In 1944 the Cossacks can take pride in the fact that as soldiers they stand on the record of their own daring achievements—not on the military accomplishments of their ancestors.

Character and Heritage

Who are the Cossacks? These sons of the steppe are born as Cossacks, and here begins their excellent *esprit d'corps* for they take great pride in being a special people. Their pride has, on occasions in their history, been so strong that some Cossack elements have attempted to establish their people as a separate political entity. Nevertheless, as a majority they have, over a long period of turbulent history demonstrated their loyalty to their country as Russians.

What other factors contribute to their military effectiveness and excellence as cavalrymen? For one, their environment is rural. They are mainly farmers. Cossacks are healthy, hardy men whose everyday life is not too steeped in the comforts which might later contrast sharply with a soldier's existence. Cossacks make good cavalrymen because ordinarily they are full-time horsemen. The average *Kazak* begins riding when he is about four or five years old, and by the time that he is a young man he has behind him years of riding experience and a knowledge of horses. Thus the Cossacks enter military service with a distinct advantage over many recruits.

Not the least important of the factors characterizing the Cossacks as hard fighting soldiers is the fact that for centuries they have been participating in warfare —and the interval between these many conflicts has been so short that hardly a generation has been without numerous war widows. The latter condition is reflected vividly in Cossack folklore and legends by such phrases as, "——the lands of the Kuban are fertilized by the blood of Cossacks," or, "The water of the Don (river) rises high with the tears of Cossack widows."

There is a strain of fatalism among the Cossacks which comes to light in combat, and it is always evident in their songs and folklore. Cossack music, telling of war and strife, reflects sadness, turmoil, and fatalism in such lines as—

"If in battle I am killed, bury me
Where I may rest, east of the River Dnepr;
But if the bullet passes by—perhaps,
I may return, home to my loved ones."

They sing a great deal about historical battles, the exploits of their heroes, and about their prowess in war. A typical modern verse, picked at random is this one:

"From forest to the steppe, on swift carriers
A Cossack regiment is riding at the gallop.
Their blades are not yet reddened by blood,
But the Cossacks are rising in their stirrups."

The boisterous, fun-loving Cossacks are no supermen, but they are tough, competent soldiers whose combat effectiveness has made their enemies respect and fear them. Wars are won by troops who fight aggressively, and the term aggressiveness best describes Cossack spirit—the spirit which today has permeated through all of the Red Army cavalry.

Centuries before paratroops, commandos, and Rangers came into existence the Cossacks set the pattern for aggressive, relentless and violent fighting. As soldiers they are a pugnacious, adventuresome lot who supplement their impetuous spirit with endurance and determination.

The Cossacks are proud of their rich military heritage which began centuries ago when they agreed to per-

[1] In the Russian usage, the term "cavalry" means *horse cavalry only*, and it will be so used in the remainder of this article.

SSACKS

by Major Robert B. Rigg, Cavalry

form regular military service for the Russian government. Because they come from Russia's longest line of professional soldiers, the Cossacks have always been taught to expect combat, and they have usually been mentally prepared for the unpleasantries of war. This has aided them to a degree, when combat has come. Their willingness and ability to fight also springs from their loyalty to country, for the ancestors of today's Cossacks fought to sustain and extend the borders of Russia. Generally speaking, the Cossack population, taken as a whole, has been as human as other peoples in their reactions to the holocausts of conflict. The Cossack people have suffered from war weariness, too.

The major portion of the Cossacks fighting in this war are the Don, Kuban and Terek Cossacks. The Ural, Orenburg and Siberian Cossacks have contributed units, but numerically speaking, these are only small colonies, descendants of Cossacks who years ago migrated from the Don and Kuban regions.

Military Background

Under Tsarist rule a Cossack began military service when he was 18, and for the next twenty years he was subject to active duty. As a general rule, however, only the first two or three years were spent on active duty. Completing this, the Cossack assumed a reserve status. Reserves were divided into several classes, and the *Kazak* passed from one class to another with age; the first class (the younger Cossacks) was liable to immediate call.

The Imperial Russian Army always contained a regular contingent of Cossack units, while those Cossack cavalrymen in reserve were organized in regional units on the order of our National Guard. In World War I these reserve Cossacks were mobilized and dispatched to the fighting front in a matter of days.

In return for their military services the Cossacks were endowed with certain privileges, and as a result they were better off than the average Russian of the period. The Statute of 1869 endowed all Cossack officers and civil servants with landed property. Previously there had been little social distinction between Cossacks, but this statute had the effect of dividing them into classes and destroying their former cohesion.

One of the remarkable facts about the Cossacks has been the democracy which existed among them. They elected their civil leaders and they lived a successful communal life. These Cossack prerogatives, however,

Photo by Major E. S. Kennedy

This Cossack Guardsman, posing beside his horse, is wearing the very practical *burka,* a heavy fur felt cape weighing about nine pounds. The *burka* hangs straight, protects rider and horse; at night is often used in lieu of blanket.

Photo Union of Soviet Socialist Republics

Symbolic of the traditional father-to-son heritage are these two Don Cossacks—Sergeant M. Ryabov and his son Junior Lieutenant V. Ryabov of the same Guard Cossack unit. The tommy gun (Model PPSH M1941) carried in this fashion is ready for instant use, yet it allows freedom of the hands at other times. The father has just been decorated with an order.

contrasted sharply with the less fortunate Russians who surrounded them.

A decree of December, 1912, modified the terms of Cossack military service, and the decree of June 1918, eliminating all of the Cossacks' special privileges, placed the Cossacks on a par with all Russian citizens.

The Cossacks did not achieve their present efficiency and military effectiveness overnight or without prolonged effort. Their military history contains mistakes, and many Cossack deficiencies were not the fault of the government.

Some Cossack elements in history were not soldiers in the true sense of the word. Despite an excellent *esprit d'corps* the Cossacks several times in the past, neglected discipline and were forced to pay the resulting penalties. In times past, various Tsars of Russia had given the Cossacks the privilege of looting after battle. This was a form of extra reward for their good combat services.

The act of plunder had its day long ago, and eventually armies came to recognize that discipline was weakened by such an activity. At a time when most armies were taking measures to abolish looting, however, the Cossacks were perfecting their technique. Finally looting became one of the Cossacks' major military weaknesses, and it was not until these cavalrymen became a part of the Red Army that it was completely wiped out.

The present Cossack cavalryman is more self-possessed than his warrior ancestors, some of whom might be typified by this story that Cossacks tell today: "Tsar Peter the Great once came upon a Cossack who was nude except for the pistol and saber hanging from his waist belt. The Tsar asked the Cossack why he was in such a deplorable, naked condition, and the Kazak replied that he had sold all of his clothes for vodka. The Tsar then inquired as to why he had not disposed of his pistol and saber in a similar fashion if he had such an unquenchable thirst. The naked Cossack's proud reply was that he would *never* sell his arms; with them he could obtain more clothes—and more vodka."

As a specialized military body of the Tsars, the Imperial Cossacks were obliged to perform many police tasks. Too often this policing took time away from field training and more than one Cossack unit went into battle handicapped by a lack of proper training.[2]

Another bad aspect of Cossack policing was that in certain regions it worked to the disadvantage of national unity, for in performing these tasks the Cossacks were used against non-Kazak people who resented the fact that this one group so often enforced the law. As a result, the Cossacks came to be regarded with enmity in many communities.

Often, however, the Cossacks were not in sympathy with their missions, but they chose to obey orders rather than be called poor soldiers. During the Revolution, Cossack feeling manifested itself more when they obeyed orders in letter, but not in spirit. This frequently occured when the Cossacks were put to a task they considered unjust. There was a saying in Russia that the "Revolution progressed from under the bellies of Cossack horses." This is based on incidents where Cossack units were ordered to form lines to stop crowds. The horsemen obeyed their orders, but winked as the people went underneath the animals and forward to their objectives.

Soviet Cossacks

The Soviet régime has altered and improved the Cossack military service as compared with that of Tsarist times. The latter system showed many weaknesses during both the Russo-Japanese War and the First World War, and would have hardly proved practical in the present conflict.

The unruly and freebooting Cossack soldier of past generations would find little place among his brethren in the disciplined Soviet army of today.

Qualified American observers, who have seen the larger armies of the world, agree to the fact that the

[2]Cossack units from Warsaw (then Russian) made a very poor showing in the early part of World War I. They had been too long on police duty in the city, and when they entered field combat their lack of training caused serious blunders and many casualties.

Red Army is about the best disciplined military force in history. The Cossacks could not fit into such an efficient organization without complying in every respect with this excellent standard of discipline.

The new era for Cossacks began with the Russian Civil War. This conflict substantiated Russian faith in its cavalry, and it laid the basis for Soviet Army Regulations—its methods of training, tactics and strategy. Cossacks fought on both sides during the Revolution. Their cavalry was the mainstay for the disentegrating White side, while among the Bolshevists Marshal Budyenny's famed, long-marching I Cavalry Corps contained a great many *Kazaki*. The combination of the World War and Civil War served to depopulate and somewhat weaken the Cossacks, and the effects of the combined conflicts were felt long after.

The Revolution brought many changes in Cossack life, but the *Kazaki* finally became adjusted to the Soviet Government's system of State-owned land. Collective farms replaced the many small ones previously in existence, and the improved machinery and management benefited Cossack communities, which prospered under the new government.

While old Cossack traditions were revived by the Bolshevists in the period after Civil War, the political stability of the Cossacks was questionable. They ceased to exist as a military force until about 1936, when they were formally made a part of the Red Army. Earlier the Cossacks had served in the Red Army as individuals, but there were no special Cossack units such as there are today. All doubts of Cossack loyalty were erased in 1942 when young and old Cossacks organized themselves into guerilla and volunteer bands for the defense of their homeland against the Nazis.

Today the Cossacks fit well in the Red Army because of the relative preponderence of cavalry maintained by that force. Years ago Red leaders, lacking "Maginot Line complexes" and recognizing the lengths of the Soviet Union's borders, appreciated the need for a large army of mobile troops, and today's Soviet cavalry and mechanized forces are a result of that early foresight.

Uniforms

The Field Uniform. The distinctive dress which has characterized the Cossacks in all past wars is not worn in combat today. Instead, the Cossacks wear the prescribed field uniform of the Red Army cavalry. They are allowed, however, to retain their distinctive Cossack caps. The Cossack field uniform is illustrated in Sketch No. 1.

This is the first war in which the Cossacks have consented to wear helmets. Nevertheless, the metal headgear is optional, and the majority of Cossack units prefer to wear their traditional lambskin *kubankas*, or "Don military caps" in combat. Cossack fatalism, plus the desire to keep one item of uniform peculiar to themselves, has accounted for this preference.

The cavalry field uniform consists of slate grey—OD blouse and breeches, both of which are slightly more loose fitting than our own cavalry dress. Dark leather boots (*sapogi*), leather belt, epaulets, and Cossack cap make up the remainder of the uniform. Officers wear dark blue breeches, a Sam Browne type belt, and they always carry a pistol. In Tsarist times most of the Cossacks did not wear spurs but they relied on a *nagaika*, a short flexible whip. Red Army Cossacks have discarded the *nagaika* for military use, and they all wear spurs.

The winter uniform is of wool in contrast to the light cotton of the summer one. The Cossacks use the Red Army long coat in cold weather. The unique *burka*, which is a Cossack garment, may be either substituted for the long coat or worn over it. In winter combat the Cossacks quite frequently make use of the Red Army white camouflage garment. Occassionally, they wear the infantryman's *valenki*, or wool felt boot. The *valenki*, however, is a special winter boot designed primarily for dismounted action.

The Don Cossacks wear a special "Don service cap" which has a red cap band, and is a piece of headgear distinct from that worn by other Cossacks or Red cavalrymen. The Siberian Cossacks wear a loose, fur cap called a *papkha* the top of which is flattened in by hand when placed on the head. During the Russo-Japanese War of 1905 the Siberian[3] Cossacks wore very large *papkhas*

[3]The only Cossacks who fought in the Russo-Japanese War were mounted and dismounted elements of the Siberian Cossacks. Don, Kuban and other regiments had just arrived in the theater of war when the conflict ended.

Cossacks in Poland

July 24. (U.P.) Marshal Rokossovsky's and Marshal Konev's armies split the front open with gains averaging thirty-five miles in twenty-four hours across the Polish plains.

Rokossovsky's Cossack cavalry swept across the Wieprz River on a wide front, charged into the big industrial center of Lublin, ninety-three miles southeast of Warsaw, yesterday and killed more than 3,000 Germans in the first few hours of street fighting.

Without pausing, the main forces by-passed Lublin from the North and pressed on to within twenty-five miles of the Wista (Vistula) River. The Wista was expected to prove no more of an obstacle to the Russians than did the Bug. It is the last natural defense barrier before Germany.

Farther north, Rokossovsky rammed a giant pincers across the approaches to Warsaw. One force captured Parchev, eighty-eight miles southeast of Warsaw, and drove on to within eighty miles of the capital, while the northern column pushed through Siematycze to within seventy miles east of Warsaw in a formal advance.

which they stuffed with paper and cloth as an added safeguard against Japanese sabers.

The Kuban Cossacks have a special fur cap of their own called a *kubanka*. This piece of headgear is short, round and kettle-shaped. The top of the *kubanka* is flat and made of red cloth with two light blue (the cavalry color) cross stripes on it. The Terek Cossacks also wear a *kubanka*.

Uniform accessories include the usual soldier's issue of extra breeches, underwear, socks, gloves, etc. Because of the simplicity of manufacture, foot cloths are often used in lieu of socks; these are wool or linen, depending on whether it is summer of winter. This cloth is carefully wrapped around the foot and ankle in a certain way; it is not as crude as it sounds, and over a period of many years the Russians have found foot cloths to be practical.

Dress Uniform. This uniform is along the lines of the traditional Cossack military dress. The main feature of the outfit is a garment called the *cherkess*. The latter is a circular skirted long coat with the usual rows of "bullet" cases placed diagonally across the breast part of the coat. Today, these "bullet" cases are only ornamental. A *rubashka* or high collared shirt is worn under the *cherkess*. The *kinjal*, a short Caucasian-type dagger, is worn on the waist belt, and it is as much a part of the uniform as the breeches, soft leather boots, and Cossack cap which complete the dress ensemble. Except for minor changes this dress uniform is the same as the Cossacks have worn for generations.

In the initial phases of World War II the special Cossack volunteer units were clothed in a variety of typical Cossack uniforms having the *cherkess*.

The Burka. This strange looking cavalry garment is a typical feature of Cossack winter dress. It is a large fur felt cape weighing about 9 pounds. Many a U. S. cavalryman has sworn at the raincoat which, when lashed by the wind, left his legs bare in wet weather. The *burka* is a garment of sufficient stiffness and weight to hang steadily from the rider's shoulders even at the gallop. Furthermore, the *burka* is purposely very full in the back to allow the rider freedom of motion in the saddle without having the garment slip between his seat and the saddle. (See Photo 9.)

This unique article of military clothing seems to have originated in the Caucasus where it was designed to protect horsemen from the mists and rains, as well as snow, wind and cold. The *burka* can be found in cruder forms among the tribesmen of Afghanistan, Iran, Turkey and Iraq.

The *burka* is used in lieu of a blanket when it is necessary to travel light. A cavalry general who was in the Caucasian Campaign of 1942-43 told the author that for days at a time the *burka* served him as an outer covering in the daytime, and his only blanket covering at night. This cape is often used as a improvised stretcher for carrying the wounded or dead. In the winter it has even been used as a substitute for a sledge to drag weapons across the snow.

Burkas were used in a very unique fashion when a snowy Caucasian pass was forced in 1921. A Red Army cavalry division surmounted the Godher Pass by laying all the division's *burkas* out on the narrow, slippery trail. These heavy garments provided firm footing for the horses led up and over the winding pass. Even some light artillery was drawn over this "roadway of *burkas*." While not specifically designed as camouflage apparel this heavy dark cape often serves to conceal the cavalryman because its quality permits it to be shaped in a variety of ways which destroys the familiar silhouette of a man.

When not worn by the rider the *burka* is folded in a square roll and strapped in front of the pommel (sometimes on the cantle, in case of Caucasian saddles).

The Bashlyk. This is another article of clothing peculiar to the Cossacks—particularly the Terek Cos-

Photo Union of Soviet Socialist Republics

These Kuban Cossacks are wearing the *burka*, the *bashlyk*, and the fur felt *valenki* or winter boot. The horses are typical Cossack mounts, not beautiful looking animals, but very strong ones. This photo of March, 1944, shows a Cossack raiding party ready to penetrate the enemy's lines and operate in rear echelons.

sacks. The *bashlyk* is a cowl or hood, designed to protect the horseman's neck and head in severe weather. This combination of headdress and scarf hangs from the Cossack's shoulders like a cape when it is not actually in use. (Sketch No. 2.) During inclement weather the *bashlyk* is pulled over the head, and the extra folds, wrapped around the neck and face, give the rider protection against snow, sleet, rain and cold winds. The color of the *bashlyk* varies according to the unit. Usually the lining is the colored part while the outside is an OD; the *bashlyk* is reversible, and in the field the colored side is turned inwards.

Insignia. Cossacks wear the standard insignia of the Red Army. A red enameled star is worn on the front of the Cossack cap. This has the national coat of arms on it, and all Red Army personnel wear this cap badge.

In January 1943, the Red Army adopted *pogoni* (epaulets) in place of the former sleeve and collar insignia which denoted rank and arms of service. These shoulder boards are identical in almost every respect with epaulets worn by the personnel of the Imperial Russian Army, have a system of stars and longitudinal stripes to indicate various officer ranks. Horizontal cross stripes show NCO ranks. All soldiers and officers in the Red Army now wear these epaulets.

In addition to receiving extra pay, Cossacks belonging to Guard units wear a special "Guardist" badge. All Cossacks receive and wear Red Army decorations in accordance with regulations which apply to all Soviet military personnel. Wound stripes take the form of ribbons, except that they are worn on the opposite side of the chest from ribbons and decorations. Red wound bars are for lesser wounds, while gold ones are for the more serious injuries in battle. (Sketch No. 1.)

Photo Union of Soviet Socialist Republics

This picture, taken in December, 1943, illustrates the Cossack winter uniform. These Don Cossack scouts wear the special "Don Cossack service cap." The leather pouch on belt of upper Cossack is the standard Red Army map case.

The War

When Hitler launched 170 divisions[4] against the Soviet Union in his attack of 22 June 1941, the Red Army sustained serious losses. A static defense was impossible against the thrusting power of German armored wedges, but the *blitzkrieg* technique exposed German flanks as well. To the surprise of foreign observers the Soviets began to use their cavalry in operations against enemy armored flanks. Thus, during the period of the Red Army's strategic defensive, cavalry elements engaged in a series of tactical offensives to fulfill its mission of delaying and inflicting heavy losses on the enemy.

It is unlikely that the armor-intoxicated enemy ever thought that they would have much to fear from Cossacks, or any other cavalry, but German and satellite concepts were altered after Ikva River, Shumachi, Shtepov, Rostov, Yelets, Stalinogorsk, Venyev, Moskva, Kropotkin, Balta, and the Caucasus. Even General Guderian, the German armorophile, was tactically embarrassed on occasions by the once so-called "obsolete horsemen." Hard-bitten Major General Glinsky relates with much satisfaction how his horsemen captured General Guderian's mechanized command post from which Guderian himself barely escaped.

Russian cavalry has fought steadily through three hard years of war—initially checking the German advances, and now hastening the enemy's retreat. On combat performance alone Red Army cavalry has justified its existence and the faith in Marsal Stalin and other Soviet leaders placed in it.

The effectiveness of Soviet cavalry, however, lies not alone in the prowess of well-trained individuals and units, but in its *mass* and *combined* application with mechanized forces. Soviet generals have at their disposal divisions and corps of Cossacks and cavalry, and as late as the summer of 1944 they are still training new cadres.

Part II of Major Rigg's account "Red Army Cossacks," describing Cossack equipment, arms, and armament, will appear in the November-December issue of The Cavalry Journal.

[4]Soviet authorities estimate one-third of these were mechanized.

Raids in German Rear*

by Eugeny Krieger

DURING the first months of the war, the Germans ascribed a magic power to the word encirclement. This word no longer exists in the vocabulary of Soviet soldiers. But the Germans have now acquired a mortal fear of encirclement.

In the days when mad fear compelled the Germans in the Korsun-Shevchenkovsky district to toss about in a tightening ring of Russian troops, a Soviet Guards cavalry unit in a distant sector of the front made a breach in the German defense line and set off on a deep raid through the German rear. Every man in the unit knew he would have to fight inside the German front, completely isolated from the main forces, along roads which the Germans could intercept and cut at any moment. But the guardsmen had behind them the Battle of Stalingrad, the attack at Kharkov, the glory of the Desna and the fame of the Dnepr.

The path was difficult, and in addition the weather was frightful. Snow alternated with rain. The swollen earth greedily sucked down the wheels of guns and vehicles. The cavalrymen left on the other side of the front everything that could hamper their movements and maneuvers—motorcars and heavy transport vehicles of the rear services—and took along only the most necessary equipment, mainly guns and light transports.

Driving a wedge into the German front, sweeping away small centers of resistance in their path and taking fortified villages by storm, the cavalry squadrons headed due west. After covering about 80 kilometers they turned sharply to the south, toward Rovno. Behind them, collapsing under frontal pressure, came columns of retreating Germans. Sometimes the engagements were quick and final, sometimes difficult and drawn-out, but the peculiarity of all was that they were fought deep inside the German front, which was breaking up under the onslaught of the main forces.

Many times, after capturing a large village straight from the march, advance squadrons would gallop on ahead, and a few hours later their supply carts, hurrying after them, would encounter retreating German troops in the same village. Then the drivers had to get their carts through by cunning or boldness, under the very noses of the Germans—sometimes by forest detours, or, if it was night, by driving straight through the village.

It sometimes happened, too, that a detachment of Guardsmen which had fallen behind would overtake a large enemy cavalry column in utter darkness and calmly attach themselves to it. They would trail along until one of the dozing horsemen muttered something in an incomprehensible tongue, whereupon the Guardsmen would discover they were with the Germans. In such cases the daredevils never lost their heads, but con-

Information Bulletin, Embassy of USSR.

Machine gun carts of a Cossack unit roll forward with Cavalry. Carts have cross-country mobility, are not road bound.

The Cossacks of the IV Kuban Cavalry Corps of Guards under Lt. General N. Y. Kirichenko performed a heroic march across the Caucasian mountain range and defended Tuapse; battered the Fascists at the approaches to Grozny, Rostov, and Taganrog; took part in the break-through of the Mius front in the struggle of the Red Army for liberation of the Donetz Basin and Azov Region. Photo shows Kuban Cossacks on the march.

tinued with the column until the first cross-roads, where they would quietly wait until the Germans had passed, then either escape safely—or if they had the advantage, raise such panic among the enemy by sudden fire that in two minutes only dead Fritzes would remain on the road. In the deep German rear, Soviet cavalrymen often captured groups of Germans, whom they took along with them.

The aim of the Guardsmen in their raids was to appear suddenly, from a totally unexpected direction, near towns behind the German lines, and take them with few casualties.

Now that these missions have been successfully completed, the general who headed the fantastically daring operation only tells of the amusing incidents and keeps modestly silent about the difficulties and spectacular successes.

For example, he recalls the night that he stopped to rest in a village, quietly worked with his staff and even found time for a little sleep—only to discover in the morning that the Germans had set up their division headquarters in the adjoining village, separated from him only by a small gully.

On another night the General was infuriated by the spectacle of an automobile speeding through a village which he had occupied, with every headlight on, contrary to all rules of behavior in the enemy rear. He shouted to the commandant: "What the devil do you mean by letting your radio station run around with lights on? Stop them!"

The Guardsmen rushed after the car and halted it. The German gendarmerie officer inside was no less surprised than they; he had come to the village in blissful ignorance, looking for a place to spend the night.

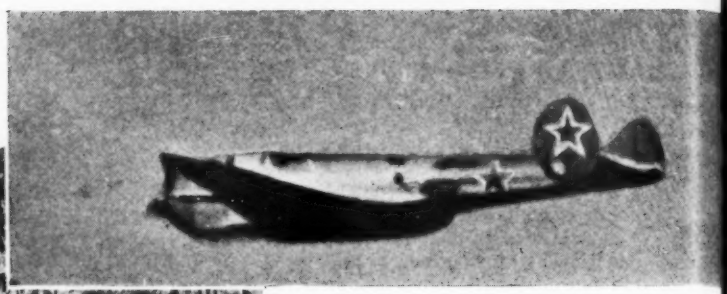
The general was particularly pleased with the work of the transport service. Thirty-two carts loaded with shells were sent after the cavalry, which had moved far ahead. Because of washed-out roads, the carts had to be drawn by oxen. The cavalrymen tried to hurry the slow animals by continuous "Giddaps!" A number of times they encountered groups of German troops retreating from the east along the road by which the Guardsmen had recently passed; at other times they ran into German garrisons, from which they extricated themselves heaven only knows how.

In the Battle of Korsun-Shevchenkovsky, during the Soviet advance in the Ukraine, cavalry played a vital rôle in the encirclement of strong German units.

Ten days had passed since the cavalrymen had been told by radio that ammunition was on its way in ox-drawn carts. They had given up all hope, certain the transport was lost. Then, at the approaches to a town they were besieging, the Guardsmen heard from the road melancholy "Giddap"—and the transport hove in sight.

This seemed nothing less than a miracle—the drivers had covered 150 kilometers in the German rear without losing a single cart. The Guardsmen entered the besieged town, behind the German lines, with light casualties—and the victory was saluted in Moscow by cannon salvos.

During these same days the ten picked German divisions tossed in their tightening ring, maddened by the now terrible word for the Germans—encirclement—a word which meant doom and destruction for them.



Air-Cavalry at Bryansk

by Guards Colonel V. Ukhov

THE cavalry plays an important part in offensive operations conducted by the Red Army. Penetrating into the enemy's rear, it plays havoc with his lines of communications, smashes his headquarters, destroys his means of transport and communication services, and so on.

Cavalry is most vulnerable from the air; therefore, it stands in need of careful covering by fighter planes.

Mission and Liaison

The task before the cavalry units operating in the Bryansk sector was to penetrate into the breach in the German defense and, by sudden and impetuous attacks from the flanks and rear, develop the success of the advancing land forces, operating from the front. It was then to break through to an important line of the enemy's communications, cut it, and thereby threaten the Germans with encirclement.

In conformity with this task, the fighter planes were to cover firmly the combat formations of the cavalry, while the bombers and attack planes were to coöperate with the cavalry on the battlefield. A careful plan for covering the cavalry in the various stages of its operations was drawn up. This plan covered three specific phases—the moment of the cavalry concentration; the moment when it entered the breach; and the time of action inside the enemy's defenses.

Before the commencement of operations, representatives of the air forces were sent to the headquarters of the cavalry unit. During the advance they remained with the combat formations of the cavalry and thus secured the coördination between the two services.

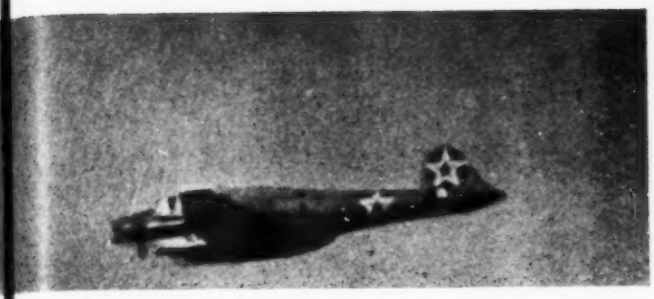
On demand of the cavalrymen the air representatives called out air forces, got into touch with the leading planes by radio and directed them to the targets that were to be bombed.

The function of the air representative was not simply to execute the orders of the staff of the land forces. He was invested with considerable powers. In conformity with the situation on land and in the air, he determined the need for and force of the blows from the air and called for the necessary number of planes.

Concealment and Signals

The situation on land and in the air was favorable for the operations of the Soviet troops. The forests in the district made the horsemen invisible to the enemy planes; and the superiority of the Soviet air forces ensured the successful work of the attack planes.

At the same time, however, the forests made it difficult for the cavalry to indicate their location. A signalling system had to be adopted. At first the cavalry would spread strips of white material on the forest glades and roads. These arrows of white material indicated the direction of their movements in daytime, while at night rocket flares were used. This, however, was not sufficiently effective because of the high mobility of the cavalry. Moreover, the cloth as a rule, would become dirty and therefore invisible from the air. The difficulty was solved by setting apart two fighter planes to patrol duty. Flying low these planes



would inform the staff of the air forces by radio regarding the position of the cavalry units. Along with this, these fighter planes performed the no less important function of warning about the appearance of German air forces over the battlefield.

Under reliable cover from the air, the cavalrymen approached the breach and concentrated for an assault. They entered the breach at night, and until daybreak bombers cleared the path for them.

During the day, the officers of the coöperating units had agreed upon the signals for identification and for pointing out the targets. When Soviet bombers appeared over the battlefield, the horsemen indicated the line of the front by rockets, while tracer bullets designated the direction of the flight to the airmen. Directed in this manner and having their targets pointed out to them, the airmen bombed accurately and inflicted heavy losses on the enemy.

Fighter Plane Escort

When dawn came, the attack planes went into action. The fighter planes protected the cavalry by a constant barrage. At that time the clouds broke and rose to an altitude ranging from 1,500 to 3,000 meters, leaving a number of "windows" and gaps of visibility, which were favorable to the operations of the enemy.

Soviet fighter planes flew in tiers. A group of covering planes carried out a barrage with the object of attacking the German fighter planes as they came out of the clouds; to fight the bombers a spearhead group flew 400-500 meters and, when necessary, they were replenished by fresh forces in the course of the battle.

Part of the fighter planes were on the landing fields close to the line of the front. This enabled the sending of reinforcements in the air battle without any delay.

On one occasion, the cavalrymen inside the German defense lines, were attacked by enemy planes. Russian fighter planes immediately took off and within three or four minutes entered into battle. The air representative immediately got in touch by radio with the leading planes and sent them against the enemy bombers. The counterattack proved timely, and the enemy suffered defeat.

Bomber Assistance

Taking advantage of the successful actions of other branches of the land forces operating in the main direction, the cavalrymen then broke through far into the enemy's rear and come out on the line of the Sukhinichi-Roslavl railway. Here they were attacked by large forces of the enemy concentrated at one of the railroad stations. Several groups of Ilyushin-2 bombers soared up in the air. Having received by radio the order transmitted by a staff officer of the observation post, they attacked the Nazi combat formations. Other groups were directed to attack objectives in the enemy's rear. The massed blow of bombers put out of action several echelons and thereby disorganized the enemy's supplies at the most critical moment of the battle. The attack was so effective that at the end of the day the cavalrymen captured the station.

Cavalry Pursuit and Air Reconnaissance

Having lost an important line of communications in the rear, the defeated German units began to retreat to the south, but were closely pursued by the cavalrymen. During this pursuit both air and cavalry staffs continuously carried out reconnaissances and informed each other about the situation on land and in the air.

The Germans finally succeeded in breaking loose from the pursuit of the cavalry units and crossed the river. On the opposite bank of the river they concentrated artillery and tommy gunners in preparation for an attack on any attempted bridgehead. The air forces then took special control of this sector and carrying out a thorough reconnaissance obtained precise information regarding the targets. Then several successful air raids were effected, and the enemy's design was frustrated.

After crossing the river, the cavalrymen rushed to the railway but again met with stubborn resistance. The Germans, counterattacking the advancing units from three sides, endeavored to surround them. A fierce battle broke out which lasted for two days. The cavalrymen dismounted and fought alongside the infantrymen. Of this they informed the air command.

Decisive Battle

The attacking planes once more came to the assistance of the cavalrymen. Blows were inflicted from the air on the enemy's key positions and nests of resistance, as well as upon their lines of communications, which were feeding the enemy from supply centers in the distant rear. Fighter planes, constantly soaring over the battlefield, protected the cavalry against air attacks.

Because of the rapidly changing situation, the cavalry commander, together with the air representatives, had to define the targets precisely and issue frequent new orders to the planes in the air. In this decisive stage of the battle, the more important objectives to be bombed and stormed were determined by the commander of the cavalry groups.

As a result of the two days' battle, the cavalry units captured three railway stations and cut an important line of communications in the enemy's rear. In this operation in which the cavalrymen carried out their task of threatening the Germans with encirclement, the air forces played an important rôle, and the battle for an important German base was won.

Tank Battles for Minsk*

by Lieutenant Colonel P. Slesarev

Sovfoto

Tanks on the offensive in the Minsk direction.

MINSK fell to the Russians in the early days of the offensive launched June 23rd. It was taken as a result of well planned and ably executed deep flank attacks, conducted on a wide front, which until the last, was almost strictly concentric. Before the capture of the city, all German main supply lines for 25 to 30 miles of Minsk were seized by Soviet tanks operating in intersecting directions; and since tank operations present tactical interest, they deserve detailed analysis.

Following the rout of German forces near Orsha and Borisov, the enemy began a hasty retreat westward. His main forces, including a tank division, withdrew in two columns toward Minsk, in which area he intended to make an arena for lasting stubborn battles. But Soviet tankmen under Major General Forminykh upset the Nazi plans. Setting out in rapid pursuit, the tankmen smashed the Germans on the approaches to Minsk and captured the city before the Germans were able to organize an adequate defense.

The operation developed along the following lines:

When Soviet troops captured Borisov, one tank group moved up along the Moscow-Minsk highway and pressed hard on the tail of the German column, while Forminykh's tanks, following the highway north, menaced the German flank. Forests and swampy terrain so slowed the movement of the tanks that initially they were unable to overtake the Germans. The situation became even more complicated toward evening when the tanks reached a river with marshy banks, and over which all bridges for 6 to 9 miles had been blown by the retreating enemy. Every possible measure was adopted to restore the bridges, but without success. There seemed no hope for the tanks to cross before morning, and such a delay might enable the enemy to break away during the night and escape. But that did not happen.

Double Attacks

That night, while one tank unit, which had advanced along the highway, overtook the Germans and engaged them in stiff fighting, Lt. Colonel Mischenko directed his machines south where crossings were being built through forests and marshes. Aided by Partisan guides, who marched ahead of the column in the darkness, these tanks covered about 25 miles under exceptionally difficult conditions and emerged in the Germans' rear.

After brief reconnaissance, Colonel Mischenko attacked. The blows, delivered from both flank and rear,

A detailed analysis of the tactical employment of Red Army tanks in attack, routing and pursuing the German *Wehrmacht*

*By cable to The Cavalry Journal, from War Department, USSR, Moscow, August 5, 1944. Action described here took place in early July, 1944.

took the Germans completely by surprise so that during the initial stage of the attack the enemy's fire, which was directed eastward, was thoroughly disorganized. In a very short time the Soviet tankmen knocked out 5 Tigers and 10 enemy guns and annihilated nearly 300 Nazi soldiers.

The panic-stricken German group was severed into two unequal parts—the smaller force retreating toward Minsk, and the stronger one toward Ostroshitsky Gorodk, where it hoped to rest and restore order in its ranks. These intentions, however, failed to materialize.

As the larger force approached Ostroshitsky, it was attacked from both sides by Soviet tanks. While Mishchenko's tankmen followed close on the enemy's heels, from another sector a tank unit under Lt. Colonel Molchanov crossed the river during the night and by noon reached the area that the retreating Germans had intended to make their destination.

The Nazis tried to avoid battle but were hindered by Soviet infantry, which forced the Nazi motor column to stop and fight. In less than an hour of battle, over about 12 square miles of ground, the Germans lost 10 Tigers, 8 Panthers, 2 artillery batteries, 200 lorries, hundreds of soldiers and officers killed, and 400 prisoners.

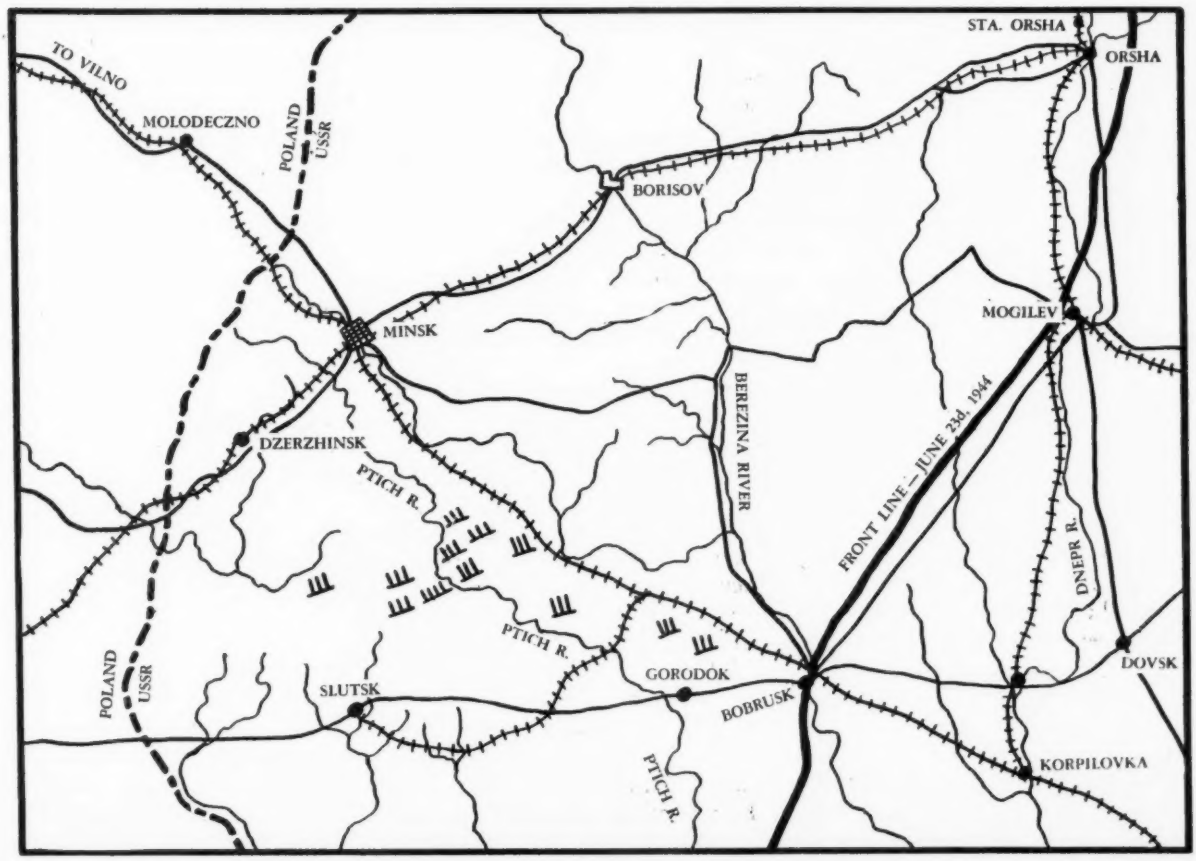
Pursuit North—Tempo and Character

Their main force routed and their reserves insufficient to give them any respite, the Germans began a disorderly retreat northward.

Just then the tank commander received word that close to 1,000 German soldiers and officers were concentrated in a near-by forest. Dispatching a detachment of tanks to deal with this group, the commander directed his main column of tanks to continue to push forward.

This decision was correct, because during pursuit it is essential to keep in contact with the main group of the enemy and smash it. These double attacks and relentless pursuit resulted in the enemy's loss of a greater part of his tanks and infantry detailed to cover the Minsk northern flank. As a result, the Germans finally had to abandon their intention of a protracted defense of Minsk, and instead attempt a further retreat northward toward Molodeczno.

Careful analysis should be made of the character of a tank pursuit under modern conditions of war. I mentioned before that these tankmen had been engaged in battle both day and night for several days—but even when their efforts were rewarded, they could not afford to rest. It might be supposed that having achieved their objective, they had the right to expect at least a brief respite. Instead, they continued the pursuit at the same tempo previously mentioned. The reason for this is obvious. Despite the long distance dividing the tanks from the infantry, the tanks were



Soviet tanks pass the government building in Minsk, capitol of Belorussia, which the hastily retreating Germans did not have time to blow up or burn.

Sovfoto

the only force that could deal a final blow to the demoralized enemy units.

Under the circumstances, it was only natural that the Red tanks continue in pursuit of the foe, and toward dusk the Germans were again overtaken. With one infantry regiment and about 20 tanks they attempted to check the advance of the Russian tanks, but without success.

Soviet forces continued to drive forward in spite of the growing darkness, and near a certain stream a fierce night battle developed. While the Germans were trying to get their motor transport across a shaky bridge, the Soviet tanks (with their better traction) succeeded in by-passing the bridge on both sides. Then as the enemy began withdrawing his tanks, the bridge collapsed. Two Tigers, which attempted to wade across, got stuck, and the Germans had to abandon them as well as some ponton parts.

About this time, in another sector along the route of the disorganized retreat, the Germans made another last attempt to hold their ground. Soviet tanks, out on reconnaissance, reported the enmy's intentions, and toward morning the Germans were attacked from their rear. Sustaining heavy losses in men and guns, the Germans scattered toward a forest. Here the pursuit ended. Close to 2,000 German soldiers and officers had been killed, 32 tanks and much rich booty captured. In 36 hours the tankmen, fighting incessantly, had advanced a direct route of 54 miles.

Approach from East

Meanwhile, other tank units began gradually to close the circle around Minsk and tighten the ring about the German defenders. As a more solid ring was forged, the Germans began showing their anxiety by dispatching part of their tank-artillery-infantry reserves to threatened sectors. The enemy evidently had hoped to stop and wear down the Soviet tank units on the approaches to the city.

On the second day of the attack a tank spearhead unexpectedly approached the town from the east rather than from the directions where the Germans had expected it. This tank unit under Lt. Colonel Losik, hero of the Soviet Union, crushed the enemy and dashed forward toward Minsk.

In an attempt to stop the attackers in terrain suited for defense, the Germans had stationed tanks along the road about 7 miles from the city. Their object was to force the Soviet tanks to undertake a flanking maneuver where they would get stuck in the surrounding mud and swamps. In this way the Germans had hoped to gain the necessary time to set up their new defenses. The Soviet commander, guessing correctly the German intentions, ignored the possible opportunities for an enveloping movement and decided to fight on the road. This decision was justified, for maneuver is not an aim in itself, but rather a means.

Several machines moved up the highway to reconnoiter. The remainder took cover and after spotting certain dispositions of enemy tanks and self-propelled guns, opened fire. In this battle, Soviet gunners enjoyed all of the advantages. While firing from long range and remaining invulnerable themselves, they knocked out the German armored formation blocking their approach. The Germans were forced to fall back in order to get out of the danger zone, but Soviet tanks moved up again, and the situation was repeated. After several such leaps and bounds, the enemy's flanks became exposed and they began a full retreat toward Minsk. During this engagement, which continued for approximately two hours, the Germans lost not only their favorable defense position but also hundreds of men, 4 self-propelled guns, one tank, and several antitank guns.

Decisive Assault

As the Soviet tanks approached the town and started preparations for an assault, the German situation became very confusing. Three tank groups threatened to drive wedges in the enemy defenses around the town. The approach from the east, with an excellent highway in its rear, was the most menacing to the Ger-

mans, and they consequently concentrated their main forces there.

At dawn, when advanced units of Soviet infantry and artillery arrived, the tanks renewed their operations. First, a tank reconnaissance party was sent out and returned to report that 12 enemy guns, 2 Tigers, and a strong force of infantry were disposed on the eastern edge of the town. The highway was blocked with antitank pillars, and the narrow passage between the antitank emplacements was mined and covered by fire. At a cost of one tank, the reconnaissance party forced its way through this passage and attacked the enemy concentrated on the eastern boundary. They destroyed several enemy guns and both of the Tigers.

While this reconnaissance party was containing the enemy on the eastern approach, Colonel Losiks' remaining units, with infantry immediately behind them, broke into the town from the northeast. The German antitank group, firing from the flank, were unable to stop the drive of the main tank column. The Germans soon found themselves blocked in the center and their flanks turned. Street fighting then started in the outskirts.

Southern Flank

Minsk would never have been so swiftly cleared, however, had not a simultaneous tank attack been launched from the south by other units. The day before the attack, these units, still 20 to 25 miles from the town, were biding their time in forests and swamps along the river Ptich. The Germans evidently reckoned that these tanks could not cover the difficult terrain so soon, or, if they did reach the Slutsk highway, they would be stopped by the strong covering detachment there. This reckoning proved fatal for the Germans, for the tankmen passed through the swamps at night and at daybreak attacked the German covering detachment from the rear.*

*The account of this tank action was told by Colonel Slesarev in his short article, "Tank Assault in Swampy Terrain," July-August, 1944, issue, The Cavalry Journal.

The 3000 men that remained of the German infantry division, along with 7 self-propelled guns and 5 tanks, were driven into a forest and there routed. The Germans lost all of their armored equipment and about 1,000 in killed; the rest ware dispersed.

Without stopping to mop up small groups of the enemy, the tanks from the south headed for Minsk. Before long they had cut the last road leading to Dzerzhinsk, and the enemy retreated in utter disorder along the country roads westward. Minsk was in Soviet hands.

Conclusion

In these battles for the capital of Belorussia, Soviet tanks displayed exceptional vigor and employed a variety of tactics.

The success was due mainly to the speed of the offensive, which at times averaged 25 to 30 miles per day. Meanwhile, infantry often occupied vacant tactical spaces without fighting. During decisive assaults, the infantry kept pace with the tanks even after heavy forced marches. The tasks of tanks and infantry were everywhere clearly defined, and both branches came to one another's assistance in good time.

The attack on Minsk was made from three directions, and the enemy was forced to scatter his forces accordingly. If the enemy strengthened his forces on any one sector, the main assault was shifted to another sector.

The tank battles for Minsk prove that the successful employment of tanks requires a variety of tactical applications. The launching from different directions of simultaneous blows, although often characteristic of operations of small tank groups, is not the only way to break enemy resistance in a town. When tanks attack in force and on a wide front the fate of the town may be determined in its rear. Sometimes a combination of these two methods is possible, as was witnessed in the battles for Minsk. The depth of the tank blows may vary in accord with the character of the terrain and the relative force of the opposing armies.

Sovfoto Radiophoto

Tommy-gunners under cover of tanks clear a forest of Germans in the Baranovichi direction. This town, a rail center south of Vilno and west of Minsk, on the First Belorussian front, was strongly defended by the enemy.

A Tank Battalion Headquarters—On the March and in the Attack

by Major Charles W. Walson

EVERY tank battalion commander has his own ideas as to how he will mount and employ the various members of his battalion headquarters section on the march and during the attack. The following tables indicate one way in which the members of this section may be mounted. It is to be noted that each vehicle in the battalion headquarters is named according to the functions of the passengers in that vehicle.

On the march, the battalion commander must consider certain groupings in order to obtain the maximum efficiency from his staff. See Chart No. 1.

(1) The command half-track contains the operations and intelligence personnel of the battalion and can function as a mobile CP for the battalion headquarters during the march.

(2) The administrative half-track groups the S-1 and S-4 and their assistants and clerks.

(3) The battalion commander and S-3 ride in a ¼-ton truck. In this vehicle, the battalion commander can either move with the higher unit commander or he can "ride" the column.

(4) In the majority of cases, the S-4 will be in the administrative ¼-ton truck and not in column.

During the attack, the vehicles are distributed throughout several of the attack installations as indicated on chart No. 2.

(1) The command tank and S-3 tank are where they are most needed during the attack. They are either at an OP from which the field of battle can be observed or near the head of the support echelon of the battalion.

(2) The command half-track follows the attack from the attack position after enemy resistance has been overcome. It follows the attack by bounds.

(3) The liaison officer is with the higher unit and has to use combat command or other radios to communicate by wireless with his battalion. He visits the battalion command post frequently to maintain the proper liaison.

(4) The executive officer and S-2 are prepared to move forward and relieve the battalion commander and S-3 during lulls or when one or both become casualties.

(5) A complete T/O loading of the command half-track is shown. It is quite probable that a number of the personnel listed as riding in this vehicle will be left at the assembly area so as to provide more room for essential personnel during combat. Since this half-track is a mobile CP, it is necessary that there be enough room for the commanders to assemble for further orders and for proper handling of information.

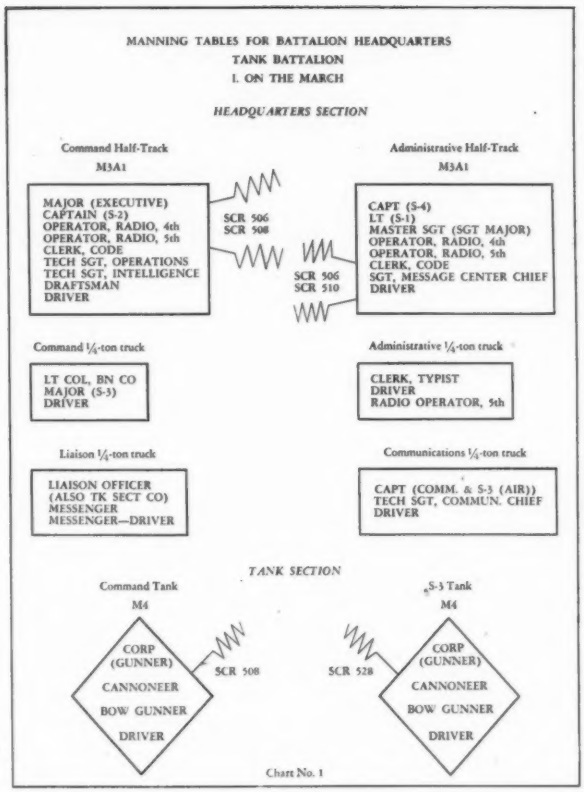


Chart No. 1

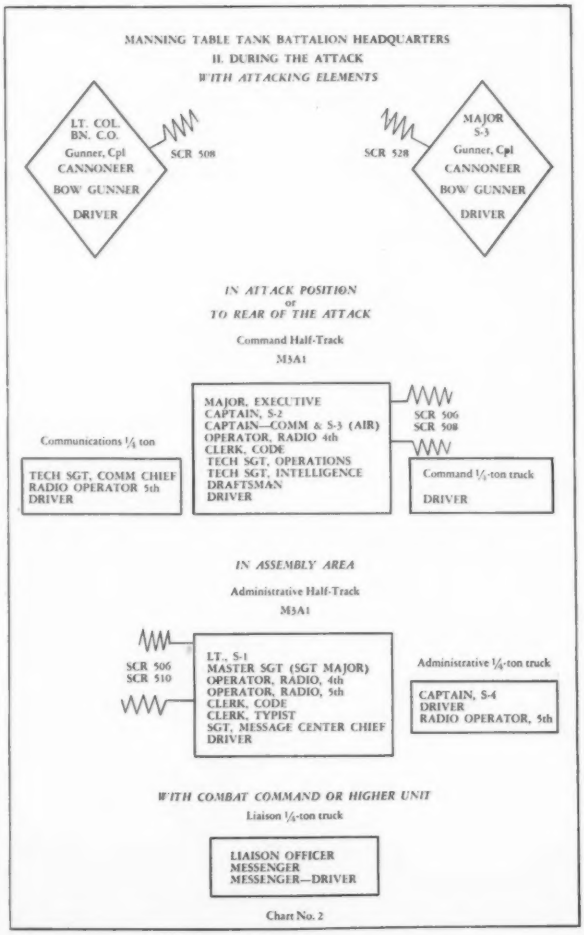


Chart No. 2

Tanks and Tank Destroyers as Reinforcing Artillery

by Colonel Otis McCornick, G.S.C.

FOR some time tanks have been used to give close fire support by direct laying for other tanks or infantry. They have been used as artillery support for infantry in many battles.

From experience in combat it became evident that tanks and tank destroyers could be used effectively as reinforcing artillery. The tank battalion is equivalent to 13 4-gun batteries of 75mm artillery. The tank destroyer battalion is equivalent to 9 such batteries. This enormous fire power should not be left idle when tanks or tank destroyers are not in close combat with the enemy.

The primary mission of the tank is to close with and to destroy enemy tanks by direct gunfire.

All tanks, however, are not used all of the time; nor are tank destroyers. Terrain may be unsuitable for tank operation. There may be no enemy tanks to use tank destroyers against. In such cases, why let them lie idle?

Forcing a River Crossing

Consider forcing a river-crossing without support of corps artillery. A few tanks, moved up close on the river bank, may be used as direct support. What a mass of fire can be put down by all available tanks of an armored division (39 75mm batteries) and the attached tank destroyer battalion (9 batteries) as reinforcing artillery! Sixteen more battalions of artillery—what a mass of fire! (See Figure 1.)

Attack and Defense

In an attack a tank battalion may be held in reserve until the very last moment. The attached tank destroyer battalion may also be held centrally in mobile reserve, but if there are no enemy tanks in opposition, that battalion is of no immediate value. The artillery commander, with all of this as reinforcing artillery, could mass a lot of fire. (See Figure 2.)

When required to take up a defense the armored division may present a classic defense—infantry on the line of resistance, artillery supporting, and tanks in reserve ready for a counterattack. Tanks may be used as reinforcing artillery up until the time they are required for launching a counterattack. Tank destroyers may also be used in this rôle. (See Figure 3.)

Training Procedure

In using tanks as reinforcing artillery, however, it must not be forgotten that their primary mission is to close with the enemy and destroy him. Otherwise, a powerful offensive weapon has been wasted.

Previous training in indirect fire can be of great value in working out the problems of tanks used as reinforcing artillery. Following is a suggested procedure for training.

Make the platoon the fire unit. The company is roughly equivalent to a battalion but is short in personnel to run a fire direction center equivalent to that of the field artillery battalion.

Conduct fire by axial percussion precision for registration only; by forward observer methods for neutralization only. Limit types of fire to percussion and ricochet. Time fire should not be attempted.

Observed fires for neutralization may be in support of either tank or infantry action.

In firing unobserved fires, limit them to transfer from ground check points. These fires should be prearranged. No attempt should be made to fire other than prearranged missions, as the small fire direction center practicable in the company will not be capable of figuring data rapidly.

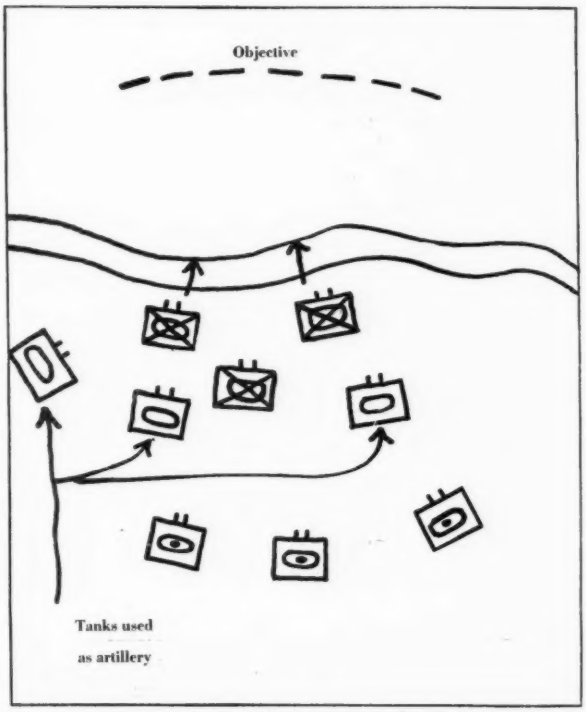


Figure 1. Forcing a river crossing.

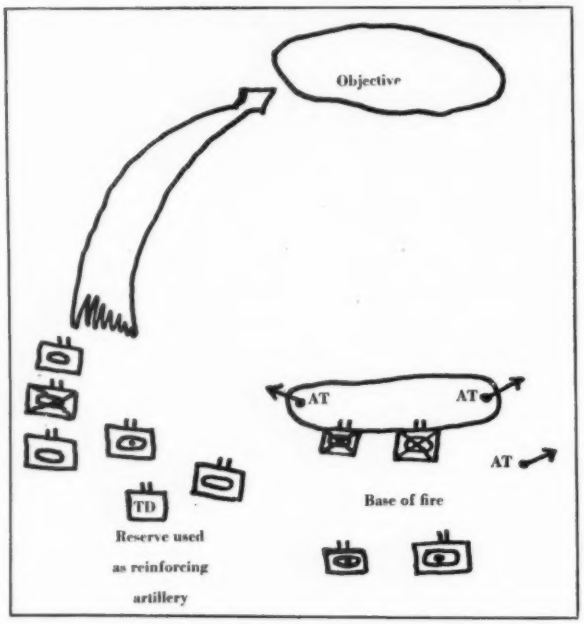


Figure 2. An attack.

In order to coördinate all artillery fires, missions for the tanks and tank destroyers should be assigned by the artillery being reinforced. That is, if a tank battalion in reserve has been assigned a mission of reinforcing a battalion of field artillery, the field artillery battalion commander, in accordance with the general fire plan, assigns fire missions. He selects targets and prescribes the time of firing and the amount of ammunition for each mission.

The artillery locates targets by precise survey of the target area. It will designate position areas for the tanks or tank destroyers. Each tank or tank destroyer company will designate a place mark for each platoon and by simple survey will connect this place mark with the artillery survey and thus tie together all fire units. If time is available, the artillery may designate the place marks and make the survey. This places a heavy burden on the artillery, however.

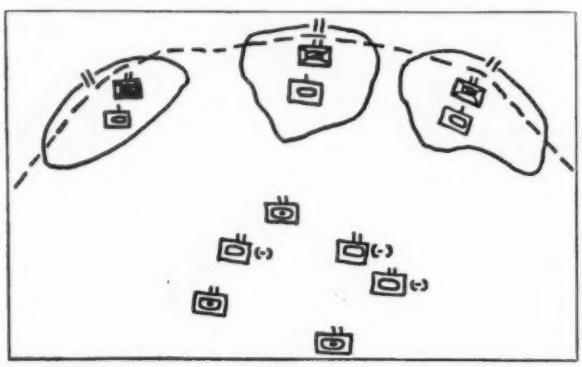


Figure 3. Defense tank battalions fire reinforcing artillery missions when not needed for counterattack. They should fire from reserve positions and should always be ready to perform their counterattack missions quickly.

The tanks and tank destroyers lay on their targets according to artillery methods. These can be taught very quickly.

The reinforced artillery should be responsible for liaison with the tanks or tank destroyers acting as reinforcing artillery.

Equipment

Additional equipment should be issued about as follows:

Aiming circles—1 per TD platoon (Tanks already have them).
Aiming posts with night lights—2 per tank or TD gun.
CP fire direction set No. 1—1 per medium tank (Co. or TD Co.).
Telephones EE-8—5 per company.
3 miles of wire and axle RL-27 per company.

Telephones will be used for communication as radio silence or interruption precludes use of radio.

Ammunition Supply

Tanks and tank destroyers must move forward with their full ammunition supply, much of which is armor piercing, whereas high explosive must be used for missions as reinforcing artillery.

Ammunition for all reinforcing fire missions must be dumped on the ground at the vehicle. The vehicular load must be left intact. In some cases the artillery may be able to haul the ammunition. The unit transport can be used for that purpose also. In a pinch all kitchen and personnel trucks can be dumped and those used also. Where a lot of ammunition has to be hauled, additional trucks may be necessary.

Summary

Two things must be borne in mind:

The primary mission of the tank is to close with and destroy the enemy.

The primary mission of the tank destroyer is to destroy tanks by direct fire.

Those missions must be remembered. They cannot be performed unless the crews know how to fire by direct laying, so this is what must be done:

Each member of the crew must know how to aim and fire the gun against both stationary and moving targets. For tanks, they must also know how to fire from a moving tank. The gunner must be expert in this firing and the crews must be perfectly coördinated—must operate like well oiled, perfectly adjusted machinery.

To accomplish this mission training of gunners and crews must be made intensive. Each crew must be able to hit a moving target 50% of the time at a range of 1200 yards.

After crews have passed their direct fire tests, they must be trained for this reinforcing artillery mission.

SUPPLY DISCIPLINE—

I desire that you study and remember these notes on supply discipline and use your influence and example to instill in every man the habit of CONSERVING, SAFEGUARDING, MAINTAINING, and SALVAGING food, clothing, weapons, fuel, motor transportation, matériel and supplies of all kinds.

—BEN LEAR, *Lt. Gen., Commanding, Army Ground Forces.*

THE experience of our armies overseas has impressed upon them indelibly the importance and necessity of *supply discipline*. These lessons, learned the hard way, must be impressed upon each officer and enlisted man and never forgotten.

No plan of operations, however good, will succeed unless administration has been emphasized from the start. Supply discipline goes hand-in-hand with military discipline.

In any operation, transportation — whether by sea, rail, motor vehicle or air—will *never* be adequate to meet all requirements.

To request more than you need is inefficient.

To waste what you have is sabotage.

Training

The training of the individual in supply discipline is as important as any other form of training. Your training program will set aside regular periods for this. Prepare what you have to say, your demonstrations, your practical work, as you would for any other training. The support of the men must be won. Ingenuity will be required. Emphasize the protection of property in guard duty. Remind each man that he is a taxpayer and quote prices.

Food. It is a standing order of the Army Ground Forces that no one should help himself to more food than he needs nor leave any on his plate. Greases and bones are used in manufacturing explosives; teach your men the various uses for which garbage is saved.

Clothing. Impress your men that a "stitch in time saves nine," and that laundering of socks, fatigues, etc., increases the life as well as the cleanliness of clothing. In battle it is more important to use transportation facilities for ammunition rather than for clothing.

Weapons. Teach your men that "for want of a nail a horse can be lost," and that in combat a missing rifle part means not loss of pay or K.P., but immobilization of a weapon.

Fuel. Train all handlers of gasoline and oil to avoid spilling a drop when making transfers.

Motor vehicles. Have your drivers do first echelon maintenance *at stops and periods of waiting* instead of only at "motor stables." As long as first and second echelon maintenance is kept up, vehicles will roll.

"A Unit can go only as far as its supplies will allow."

Hygiene and sanitation. Get your men to observe instinctively the principles of sanitation. The best fighter is no good if he gets sick; unnecessary sickness must be avoided.

Administrative directives are not the sole concern of the supply services. Learn about their contents yourself. It is not sufficient to have a good S-4 or supply sergeant—every man must be something of an S-4 or supply sergeant himself.

In Combat

The hoarding of supplies and equipment by individuals results in overloading of vehicles and undue wear and eventual breakdown of transportation.

Throwing away prescribed equipment by individuals to lighten personal loads involves resupply at a later date and unnecessary demands on transportation. To prevent this, give thought to confining personal loads to what is necessary for the mission.

The formation of unauthorized reserves and dumps at battery and other positions will result in shortages of supplies where most needed.

To abandon a supply of ammunition, however small, may be equivalent to disarming yourself or your fellow soldiers at a later date.

Vehicles, tools and spare parts are always short of demand. Units which retain more than they are entitled to, prevent the speedy reëquipment of other units.

Cannibalization of tanks and vehicles prevents these tanks and vehicles from becoming available quickly as replacements and disorganizes repair and replacement services.

There must be no unnecessary use of transportation.

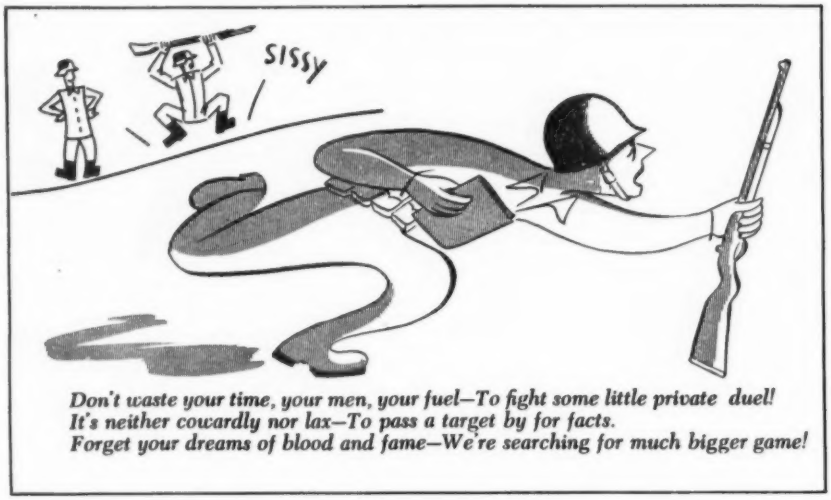
Gasoline and oil represent a very large percentage of tonnage to be moved. Trucks and vehicles cannot advance a yard without it. Uneconomical use and spilling is sabotage.

It is of the utmost importance that damaged valuable equipment such as radio sets, weapons and spare parts be salvaged for repair and reissue. New stocks cannot be provided in sufficient quantities without the assistance of efficient salvage.

It is important that captured enemy matériel and supplies of all sorts be reported and brought under centralized control, intact, without pilfering or cannibalizing. Such supplies may prove of the greatest value in planning and speeding an advance.

No matter how hard the fighting, battles will not be won without good supply discipline!

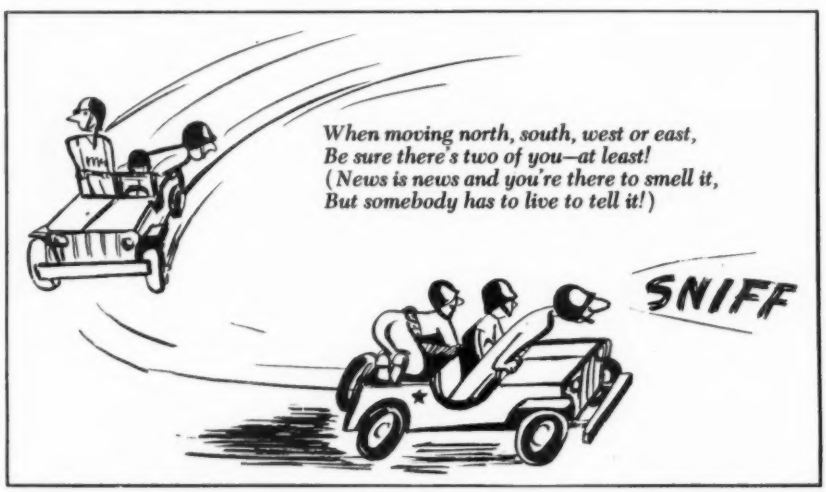
Reconnaissance–The Eyes and Ears of th



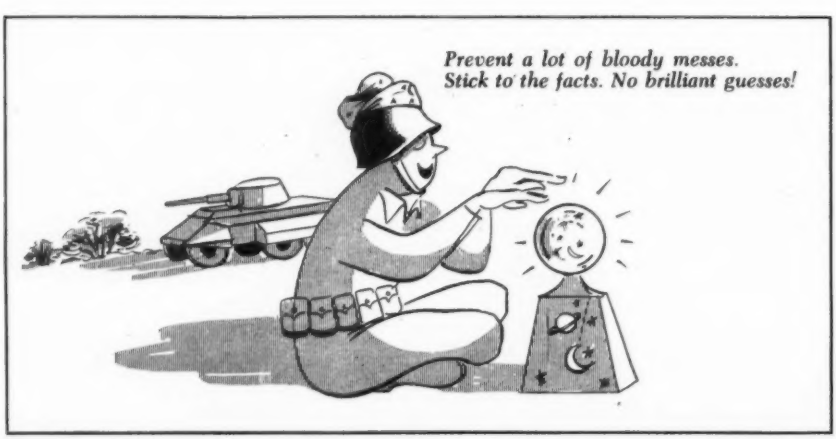
Don't waste your time, your men, your fuel—To fight some little private duel!
It's neither cowardly nor lax—To pass a target by for facts.
Forget your dreams of blood and fame—We're searching for much bigger game!

Avoid combat, seek to gain information by stealth. Fight only when it is necessary. Dead men make no reports.

Never send out single reconnaissance vehicles —use at least two. The "get-away" man brings back the information.



When moving north, south, west or east,
Be sure there's two of you—at least!
(News is news and you're there to smell it,
But somebody has to live to tell it!)

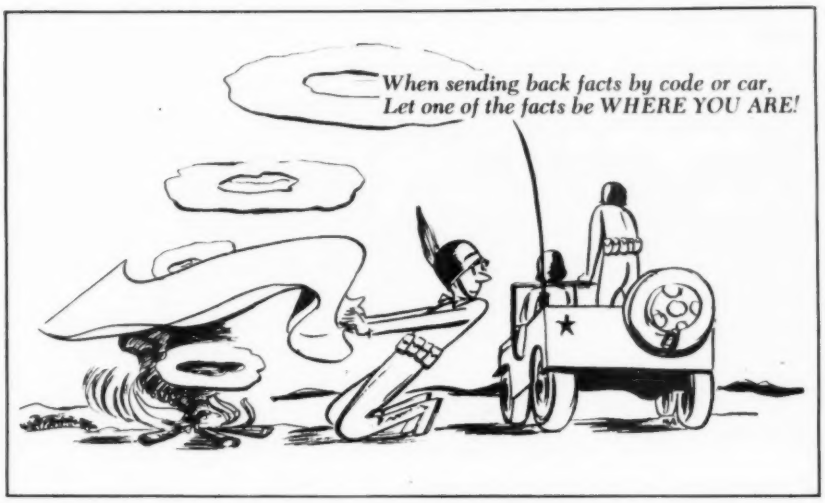


Prevent a lot of bloody messes.
Stick to the facts. No brilliant guesses!

Get the information— but remember—your work is wasted if the information doesn't get back in time to be used.

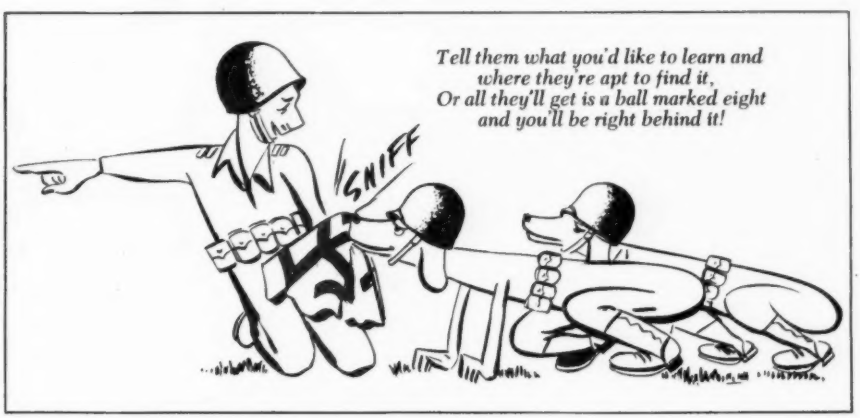
of the Army

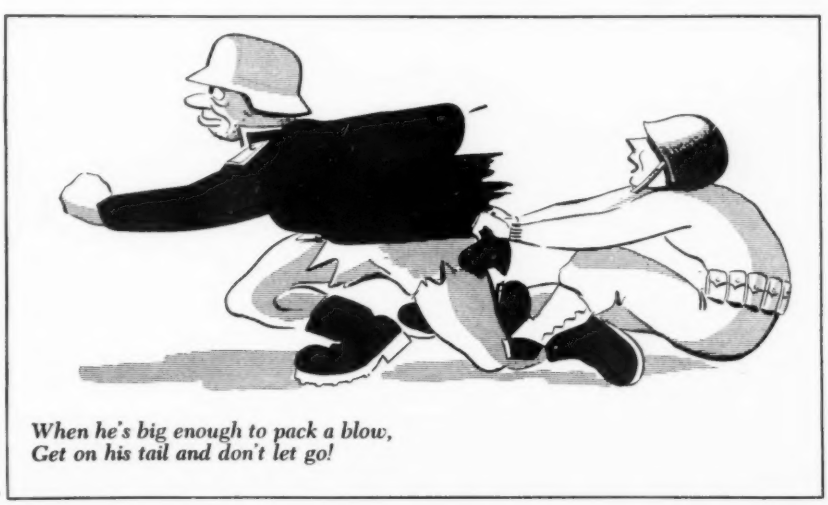
Blindmans' buff is lots of fun--except in time of war. That's why the Old Man sends you out to look his prospects o'er.



Your location should always be part of every report. You must let the commander know how you're progressing.

To insure the desired results from a reconnaissance mission, your orders must be specific, definite, and complete.


Tell them what you'd like to learn and
where they're apt to find it,
Or all they'll get is a ball marked eight
and you'll be right behind it!
SNIFF



Contact must be maintained with any enemy force which is large enough to interfere with your main body.

FIGHTING THE UNCOM

WHAT the "common cold" is to men, the "uncommon cold" is to motor vehicles—that paralyzing cold of steady, below-zero temperatures so often necessary to cope with in this global war.

The army has now developed an imposing array of winterization equipment to help fight the "uncommon cold." This winterization equipment that is now available will help get vehicles going on the coldest mornings and keep them struggling through the winter.

Winterization Equipment

For general purposes, this winterization equipment is grouped into two general classes. Class A items are termed "improvements to the basic vehicle which will be made on all applicable vehicles for future production." That means that some vehicles may have them already. If they do not, the improvements can still be installed. For example, the brackets needed to install windshield and door port hole covers must be attached to the vehicle as permanent installations, and therefore are called Class A items. The covers themselves, however, are Class B items, or "items which may be quickly and easily installed and which are necessary for vehicles which are expected to operate in sub-zero temperatures."

What should actually be ordered is one of the Winterization Kits, Interim Kits or Auxiliary Cold Starting Aid Kits, depending on the type of vehicle. The Interim Kit, or "quickie" kit, is simplest of all. It is the granddaddy of the other winterization kits, as it has been in common use for a considerable length of time, whereas the Winterization Kit is a much more recent development. The "quickie" kit contains an underchassis heater and a shroud, and all that has to be done when requisitioning is to state the kind of vehicle with which it is to be used. In general, these kits are used for vehicles for which no other winterization equipment is provided.

The Auxiliary Cold Starting Aid Kits, or "slave" kits, are more elaborate than the "quickies," but they are not so complete as the Winterization Kits. "Slave" kits contain heaters, auxiliary batteries and other electrical equipment which is used as an aid to starting in cold weather. Their prime use is for servicing of groups of vehicles which have no specific winterization equipment.

It is the Winterization Kit which will be of most value to personnel operating vehicles in areas where the temperature stays below zero consistently. These kits are very complete, and are designed for specific vehicles. Basic equipment included in a Winterization Kit is comprised of a battery heater, a cab and engine compartment heater and radiator and louver covers—all of which are permanent installations and thus are always ready for use with a minimum of preparation. Depending on the vehicle, there are numerous other items found in the various kits. Therefore, when requisitioning one of them it will be necessary to look up the listing given in War Department Supply Bulletin 9-16 (SB 9-16), dated 2 March 1944, to find the number of the kit that must be specified for any particular vehicle. Incidentally, this bulletin also lists territories for which winterization equipment will be furnished.

Equipment for Bomb Service Truck M6

Probably the best way to give an idea of the items in the various kits is to cite a few examples of the equipment available for a number of different vehicles. The Chevrolet Bomb Service Truck M6, for instance, is supplied with a Winterization Kit which contains the following items:

Insulated battery box with heating coil.
Gasoline heater to heat battery.
Petcock for bottom of gasoline tank (for easy access to fuel used in the heaters).
Primer system.
Engine oil dilution system.
Crankcase ventilation system.
Radiator cover.
Electric windshield defroster.
Hot water heater (foot-warmer).
162° thermostat.
Fuel pump diaphragm.
Tarpaulin.
Underchassis heater.

Before the vehicle is operated it is necessary to warm the oil and the battery to a point where cranking is made easy. This is accomplished by means of the tarpaulin and underchassis heater, which is placed under the crankcase, and the gasoline battery heater, located beneath the insulated battery box. Then the primer system does its job of providing a rich fuel mixture which is injected directly into the intake manifold.

The primer used here calls for installation of a new manifold, designed to accommodate the primer nozzles. In addition, a new accelerator rod and a new metering rod are provided. In some cases, the addition of primer nozzles and a line to the manifold does not require installation of a new manifold.

During operation, the engine temperature is controlled by the 162° thermostat and the adjustable radiator cover, and the battery temperature is kept up by means of a hot water heating coil under the battery and inside the insulated battery box.

After operation, but before the engine is stopped, the oil is diluted with gasoline by means of the engine oil dilution system. Thus the oil is more easily kept in a

OMMON COLD Winterization Kits For Army Vehicles

fluid state. The crankcase ventilating system serves to take this gasoline out of the oil when the vehicle is next operated and the oil has become warm enough to flow as it should.

Equipment for the Chevrolet 4 x 4

The winterization kit for the Chevrolet 4 x 4 contains much the same equipment as the kit for the Bomb Service Truck. The main difference is that an engine coolant heater is provided instead of the underchassis heater. By starting this heater some hours before the vehicle is to be operated, the coolant is heated to a temperature which warms the engine sufficiently to make starting easier, in combination with use of the other cold starting aids.

The type of heater provided in this case contains a small gasoline burner of the pot type which is fed by gravity from an auxiliary fuel tank. Air for combustion is furnished by the draft produced by a small flue, and installation of this flue, or stack, requires the cutting of a hole in the hood. Templates are included with the winterization equipment manual for use in installing this stack, as well as templates for the reserve fuel tank. This type of heater is lighted with a "torch" and may be burned continuously for periods of hours.

There is another kind of engine coolant heater which operates in a somewhat different manner. In this type, the heater is controlled by an electrical switch from inside the vehicle, and the installation includes a fuel pump unit for supplying fuel from the vehicle's fuel tank to the burner, a blower for supplying air for combustion, an ignition transformer to provide automatic ignition of the fuel, and a motor generator unit (operated by a storage battery) to drive the blower and fuel pump and to supply current to the transformer. Since this heater is much quicker acting than the one mentioned above, it should be burned only for periods of 15 minutes at a time, according to instructions given in the manual.

Special Points on Winter Care

Miscellaneous equipment includes smaller items, such as plastic windshields for armored windshield slits, ice grousers, half-track idler scraper blades and brackets, and cut-out snow shoes for tractors.

Needless to say, the installation of winterization equipment, no matter how complete it may be, is not a panacea for cold weather operating problems. For, without the proper attention to other phases of operation, no equipment can be expected to perform effectively. Instructions in OFSB 6-11, "Cold Weather Lubrication and Service of Combat Vehicles and Matériel," must be followed faithfully in connection with the use of winterization equipment. This involves use of winter grade of gasoline and lubricants.

Brushes, commutators and bearings on the generator and starter must be clean. The large surges of current which occur when starting a cold engine require good contact between brushes and commutators. Wiring must be cleaned, connections tightened and all electrical equipment must be kept free of ice.

The distributor must be cleaned and points replaced and checked frequently. Spark plugs must be cleaned and adjusted, and timing must not be unduly advanced or retarded.

Batteries must be kept fully charged, and care must be taken not to add water until the battery is to be put on charge, since added water will stay at the top and freeze before it can mix with the acid, if the battery is not charging.

Brake bands have a tendency to bind when very cold. Vehicles should be parked with brakes released and wheels blocked instead.

Oil lubricated speedometer cables should be disconnected at the drive end when the temperature is below −30°, as they often fail to work properly and sometimes break from excessive drag caused by the high viscosity of the oil with which they are lubricated.

Operation of vehicles on hard, frozen ground causes strain and jolting which may result in screws breaking or nuts jarring loose because of the low temperatures that greatly reduce the shock resistance of metals. All of these items must be checked regularly.

Storage of fuel also requires special attention. Owing to condensation of moisture from the air, water will accumulate in tanks, drums and containers. At low temperatures this water will form ice crystals that will clog fuel lines and carburetor jets unless the fuel is strained. To prevent as much as possible the formation of ice in fuel containers, they should be kept as full as possible, since the more fuel there is in the tank, the smaller will be the volume of air from which moisture can be condensed. Addition of denatured alcohol to the fuel tank each time that it is filled will reduce the hazard of ice formation. Closures of containers should be kept tight to prevent snow, ice, dirt and other foreign matter from entering. Dispensing equipment must be kept clean.

There are many more important details covered in OFSB 6-11 that should be known and practiced—such as parking a vehicle so that it does not face into the wind when there is no shelter available.

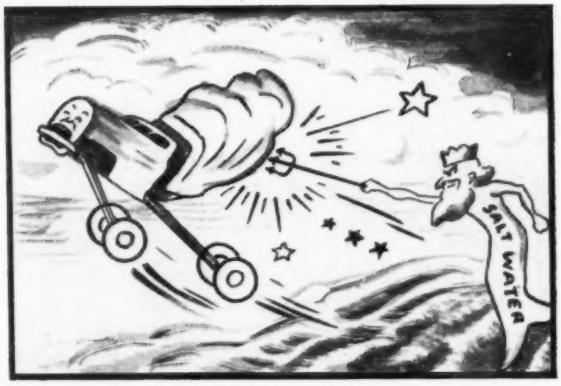
Now is the time to get SB 9-16. Allow plenty of time to get the requisitions through and the equipment on its way. Allow time, too, for installation.

Start the new winterization program today and prepare for that "uncommon cold" in advance of its arrival!

DOS AND DON'TS ON
GLOBAL MAINTENANCE!
Maintenance is fundamentally the same the world over. But differences of climate and terrain often make it necessary to emphasize certain phases of preventive maintenance. Here are some examples:

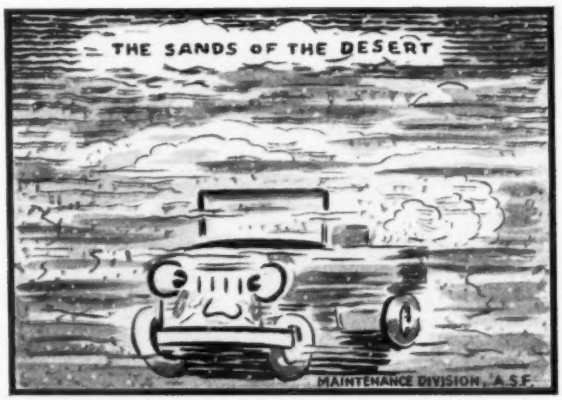
Jungles—Apply fungus protection, rust preventive, oil and paint as needed. Clean and dry equipment as often as possible.

Arctic Theaters — Requisition winterization kits, winter grade lubricants, and anti-freeze early. Check storage batteries, cooling systems, and heating equipment carefully.



Beachheads—Guard against salt water corrosion. Keep parts painted and lubricated. Wash frequently with fresh water, and dry thoroughly.

Torrid Zones—Inspect temperature gages, thermostats, ventilating systems, and cooling systems. Keep equipment out of the sun as much as possible.



Deserts—Clean filters, air cleaners, and screens more frequently. Protect equipment against the ravages of sand and dust by the best storage available.

Book Reviews

INVASION DIARY. By Richard Tregaskis. Random House. $2.75.

Out of his experiences with troops fighting in the Pacific, Richard Tregaskis wrote *Guadalcanal Diary*, one of the best books yet published from that area. He joined the U. S. forces in North Africa just prior to the landings in southern Italy. There he studied both British and American troops, military government behind the lines, and active fighting in the most advanced sectors. As a result of his activities he brought back to this country the material for his second excellent book—and a serious wound that delayed publication for months.

Mr. Tregaskis is an analytical correspondent, but by no means a callous one. His accounts of battles, and the men who fight them, are convincing and straight-forward records of facts. His objective treatment of his own experiences as a casualty is a high point of impersonal writing.

The reading public owes a great debt to an excellent neurosurgeon serving in Italy.

* * *

THE GRAVEDIGGERS OF FRANCE. By Pertinax (Andre Geraud). Doubleday, Doran & Co. $6.00.

Pertinax has for years been one of Europe's most famous journalists, fearless and clear-sighted. Before the war he was called by the *Manchester Guardian* a man "who usually says today what the French Foreign Office denies tomorrow, but confirms the day after." Faced with a prison term under the Pétain régime, he came to America.

In this exhaustive political history of the years preceding the fall of France, Pertinax turns his penetrating mind to the keen analysis of the characters of the men in power, and hence responsible—the intelligent but weak Gamelin, the appeaser Daladier, the complex Reynaud, the reactionary defeatist Pétain, and their satellites. It is of interest to note that this thorough study corroborates another Parisian's less detailed book, published in 1941, *Seven Mysteries of Europe*, by Jules Romain.

* * *

PEOPLE ON OUR SIDE. By Edgar Snow. Random House. $3.50.

Edgar Snow, best known as the author of *Red Star Over China*, has proven again that he has extraordinary perspective and an astute, observing eye to back his able pen.

As a people, Americans probably have less factual information about India, China, and Russia than about many smaller portions of the globe. Mr. Snow does not presuppose that his reader is well versed in the history and character of these nations, but supplies the pertinent informatory background necessary to understand, not these nations, but the discussions about them. In the future many of their problems will affect us, and it is our duty to ourselves to realize the phases through which these peoples have evolved to their present positions in the world.

THE WAR OF 1812. By Henry Adams. The Infantry Journal. $3.00.

In order to fill the need for an adequate short history of the war of 1812 *The Infantry Journal* secured permission from Charles Scribner's Sons to reprint the relevant chapters of Henry Adams' *History of the United States*.

In a day when reading, as well as every other phase of human life, is streamlined, the average man is wary of attacking a series as formidable as Adams' original treatise. When broken into volumes of convenient size and specific content, the valuable material contained therein is more apt to reach appreciative readers. The publisher has made a definite contribution to a little known period in U. S. history by reprinting this selection.

* * *

AS A CAVALRYMAN REMEMBERS. By George Brydges Rodney. Caxton Press. $4.00.

The author was commissioned a first lieutenant in the 27th U. S. Volunteer Infantry after the Spanish-American War. He served in the Philippines and was then discharged. In 1901 he was commissioned in the regular army and returned to Manila, where he joined the 5th Cavalry. He was retired as a colonel in 1932.

Colonel Rodney's reminiscences will not add profoundly to military knowledge, nor are they intended to. They contribute a lightly told account of army life from 1900 to 1930, with frequent interspersions of keen, witty, humor. There is a slight tendency to be sentimental, but this can hardly be considered out of order in a reminiscence.

* * *

MUCH IN LITTLE ON THE UNITED STATES ARMY. By Ruby Lee Adams. $1.00.

"Much in Little" very aptly describes this valuable little booklet. It is a chronological record of the military history of our nation with brief comments containing the minimum essentials of names, dates and actions.

* * *

FOREIGN MAPS. By Everett C. Olson and Agnes Whitmarsh. Harper & Brothers. $4.00.

In the introduction to this much needed book, the authors have ably described their text:

"This book has been written to meet present-day needs for a concise text and reference on the subject of foreign maps. It includes a discussion of the methods of studying foreign maps, the materials essential to this study, and descriptions and illustrations of representative maps and map series. . . . The organization is such that the book can be used as a text for a course in foreign map reading or as a reference by persons engaged in studies which require the use of foreign maps."

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Yankee From Olympus **$3.00**
By CATHERINE DRINKER BOWEN
A biography of Justice Holmes and his family.

History of Rome Hanks **$2.75**
By JOSEPH STANLEY PENNELL
A novel of America, past and present.

Treasury of American Folklore **$3.00**
Edited by B. A. BOTKIN
The stories, legends, tall tales, traditions, ballads and songs of the American people.

I Never Left Home Cloth **$2.00**
Paper **$1.00**
By BOB HOPE
Wise-cracking account of the popular comedian's travels.

Time Must Have a Stop **$2.75**
By ALDOUS HUXLEY
A novel of today in the Huxlian manner.

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THE ARTICLES OF WAR ANNOTATED. By Colonel Lee S. Tillotson, Ret'd. 3rd rev. ed. $2.50.

COMPANY ADMINISTRATION AND PERSONNEL RECORDS. By Colonel C. M. Virtue. Military Service Publishing Company. 14th ed. Paper, $1.50; Cloth, $2.00.

These two books need no introduction to army personnel. They have been revised and brought up to date to meet present-day requirements. The 1944 editions will be welcomed not only by new officers, but by the men whose editions no longer give them the latest information.

MILITARY LAW FOR THE COMPANY COMMANDER. By Julian J. Appleton. National Law Book Co. $2.50.

In his preface the author states: ". . . it has become plainly evident that the available sources of military law are far too involved for practical utilization by the detachment commander. With high-powered training schedules, night problems, troop schools, reams of paper work and a score of time-consuming details already crowding his day, it is unreasonable to expect the field officer to hie himself to a "law library"—there to struggle with his military law problems. What obviously is needed is a simple, concise, yet complete handbook covering the part played by the organization commander in the administration of military justice."

The assistant to the Staff Judge Advocate, Camp Sibert, Alabama, has endeavored to meet the need for a simplified guide. He has based his book on the *Articles of War*, the *Manual for Courts-Martial*, and the *Opinions of the Judge Advocate General of the Army*.

OUR ARMY AT WAR. With an introduction by General George C. Marshall. Harper & Brothers. $3.00.

The story of American campaigns in World War II, as told in official War Department photographs, may be of interest to those who prefer seeing their history to reading it. It covers action in the Pacific and Far East, the Aleutians, North Africa, Sicily and Italy, and the air over Europe.

Many of the pictures are good, but it is felt that a larger percentage of outstanding photos might have been obtained had the choice not been limited to War Department material. The layouts are far from impressive. Pictures bled into one another and unnecessarily split between the two pages tend to confuse the eye. There is still room for a really good book along this line.

THE WESTERN HORSE. By J. A. Gorman. Interstate. $2.00.

At a time when many older books on horsemanship are being reported "out of print," new and up-to-date books are welcomed in the book department. Major Gorman has written a very good, well coördinated volume on *The Western Horse*—its types and training—including trick training, rodeos, horse shows and racing. Hunting is the only field of horsemanship not touched on.

RIFLES AND MACHINE GUNS. By Melvin M. Johnson, Jr. William Morrow and Co. $5.00.

Written primarily for the soldier, this companion to *Automatic Arms and Ammunition* is an introductory study of modern military small arms. It is not intended to substitute for manuals on specific weapons, but rather to familiarize the reader with modern weapons other than those normally issued, both Allied and Axis.

More than 60 specific weapons are analyzed and discussed in Captain Johnson's book. The illustrations and photographs are profuse and of excellent caliber. The material is separated into the following categories: clip-loaded rifles and semiautomatic rifles, charger-loaded arms, charger-loaded semiautomatic rifles, automatic or machine rifles and light machine guns, anti-vehicle weapons—calibers .50, .55, 20mm (.78 inch), and submachine guns, carbines, and pistols.

PACIFIC BATTLE LINE. By Foster Haley. Macmillan Company. $3.50.

THROUGH THE PERILOUS NIGHT. By Joe James Custer. Macmillan Company. $2.75.

These two books are poles apart in war reporting. *Through the Perilous Night* is a purely personal account of limited action—life aboard the *Astoria* prior to her last battle, during which the author was injured.

On the contrary, *Pacific Battle Line* is an excellent history of the principal naval engagements in the Pacific from December 7, 1941 to November 20, 1943, including landing operations and island warfare. There is only one serious criticism to be leveled at this graphic piece of reporting. It has been robbed of its reference value because it has no index. The chronology published in the back is of interest, but the same space given to an index would have materially inhanced the permanent value of the book.

THE TEMPERING OF RUSSIA. By Ilya Ehrenburg, Knopf. $3.00.

Unlike Maurice Hindus, Ilya Ehrenburg, one of the most prominent of contemporary Russian authors, is not sufficiently acquainted with the psychology of Americans to be able to write for them to the best advantage. His diary of happenings in the war shows many examples of those qualities of violence and stoicism, oddly married in this half-Mongol people. While the literary portrayal of these traits is not strange to readers of Tolstoi and Dostoevski it cannot be piled on a background of Emerson and Thoreau and be any more comprehensible than Tschaikowsky or Rimsky-Korakov to a palate atune to McDowell. Reduced to fiction, these qualities of character and temperament become more real to the American reader than when merely recounted in short reportorial incidents as in this book.

The Fall of Paris, an earlier book by the same author, is apt to find a wider audience than this new volume covering a field already delved into by Hindus and Curie.

Volume III of LEE'S LIEUTENANTS, by Douglas Freeman to be published October 9. Christmas shipping deadline October 15.

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Cavalry Journal, b. m.	3.00	.75
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The Eastern Breeder, m.	2.00	.25
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While much is made in prisoners' letters about camp shows and an occasional movie, this may be only an indication that camp life is so dull and monotonous that an hour or two's diversion in the course of a month is made to look so important. In many cases, apparently, no matter how blue the men may be feeling, they find something cheerful to say in their letters in order to spare their families worry.

The men at present do have the minimum of clothing and food and shelter and they will continue to have them unless rail transport in Europe breaks down completely. But they are confined, their lives are abnormal, and every day stretches into eternity. It may seem paradoxical that they write cheerful letters home, and yet want and need their families to understand what they are going through. Perhaps the fact that they do is but one more indication of their courage.

—From "Conflicting Opinions," by Gilbert Redfern, Editor, *Prisoner of War Bulletin.*

Mail your contribution to PRISONER OF WAR FUND, *The Cavalry Journal.*

Here Are This Month's New Books of Current Interest

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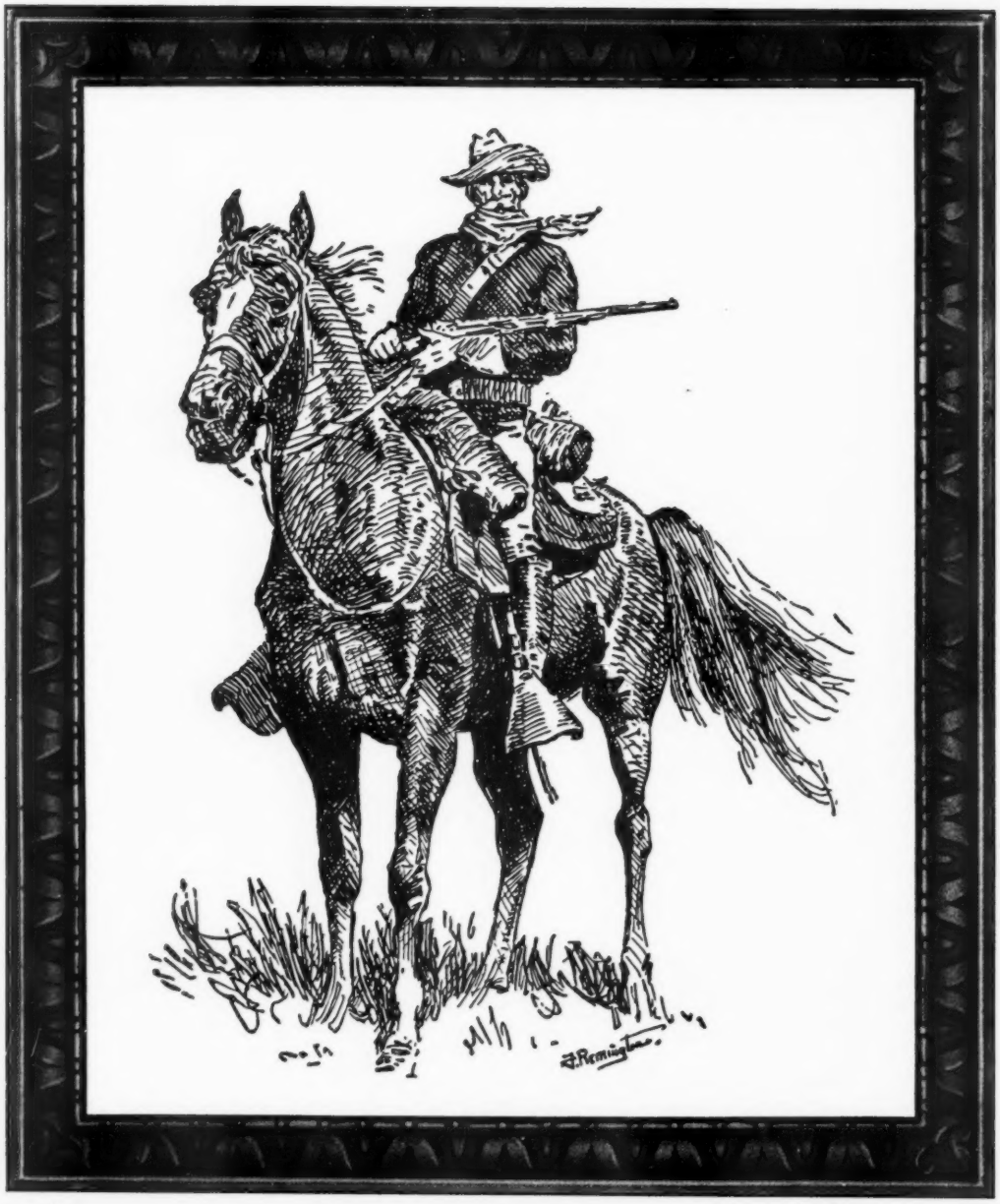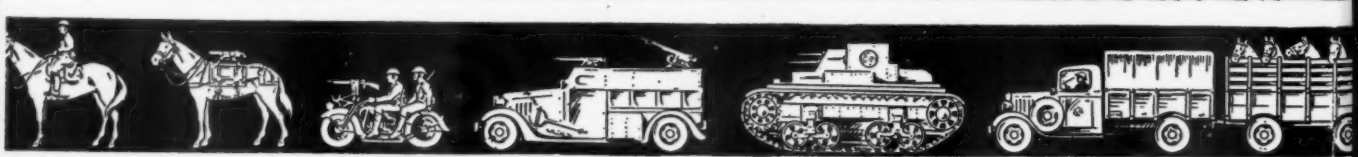
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